

Master thesis in Art & Technology

REPORT NO. 2008:052

ISSN: 1651-4769

Department of Applied Information Technology

SOCIAL AND ARTISTIC ASPECTS OF EVERYDAY SOUND

– A deep listening into the world of sound & noise

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Göteborg, Sweden 2008

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Summary

This thesis is the outcome of a Master project at the former program Art & Technology, Göteborg, Sweden. The thesis aims at exploring social aspects of everyday sounds and to connect this to my own artistic development. The thesis will start off with an investigation about the imagination of everyday sounds expressed in language and vocal imitations. The recorded imitations has been used in various experiments and finally as material in art.

The second part of the thesis is a presentation of important pioneers in Sound Art and contemporary Sound Artists, and concepts relevant to the field will be made. Finally, a documentation of seven selected art projects I have been involved with during the master program will be presented. This process builds in various degrees upon case studies presented in the first part of the thesis which include voice imitations, text studies, programming, and practical explorations regarding means for processing and transforming sounds in the computer as well as practical use of different technical devices such as ultrasound sensors and microcontrollers in art works.

The social perspective of sounds and noise is luminated in three case studies performed with a qualitative approach. These three studies show that people relate to sound depending on the context, which seems to determine the valuation of the sound. As an example, there were situations where people talked about and evaluated the object or the cause, instead of the sound itself even when they explicitly were instructed to listen and concentrate on the sound as such. This leads to the possibility of linking certain statements about a sound with a common and accepted discourse about the object or sound source.

Moreover, in the same person some specific sounds seem to evoke negative feelings in one specific situation but not in another situation. Consequently, these facts draw attention to the attached context, rather than emphasizing the inherent acoustic quality of the sound. In this perspective, the eventuality of a wider connection between sound and politics may be visible. Different political systems sound different due to the type of products and amount of byproducts created within them. Following this line of thought, the everyday sounds and noises of today's urban societies are mainly artefacts emanating from a mass-producing society.

Keywords: Sound Art, artprocess, art installations, sound, noise, electroacoustics, experimental music, context, discourse, digital art.

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Acknowledgement:

First of all I want to rewind and thank all my informants, friends and fellow students from all over the world, while giving away their precious time for participating in this project. Without you the study could not be settled and my art projects would certainly sound different.

My teacher, Martin Etherton Friberg at the former program Art &Technology should have a medal for being an invaluable talking partner.

My former tutor at the same program, Palle Dahlstedt, thank you for leading me back into the world of sound and music with your lessons in Audio.

At Valand School of Fine Art, I especially want to thank Richard Widerberg who, at an early stage, gave generous information about important texts to read and critiques about disposition of thesis.

I also wants to thank Josefina Posch and Marika Orénus at Valand School for help and informal chats.

Finally, a great thank you to Arne Kjell Vikhagen, program manager at C:ART:MEDIA, Valand School of Fine Arts for reading my thesis and for practical help in becoming a guest student at the program.

Proof reader: Barrie James Sutcliffe

INTRODUCTION

I remember reading a remarkable novel written by Heinrich Böll. The name of the book was *Doctor Murkes Collected Silence*; it was a story about a sound technician who collected found silence recorded on thrown away pieces of tapes. After pasting the fragments together, he would bring it home and spend the rest of the afternoon listening. I was in my early teenage years by the time and was fascinated by the possibility of collecting silence. I found it both poetic and odd at the same time. Strangely enough, I identified myself with this fictitious and rather unusual man. In the late 1980's, I happened to be at SR, the Swedish Radio during a period of learning and work with radio. Many years later I spoke with one of the sound technicians I met there who told me of a colleague in the 1980's that collected found tapes with recorded silences.

While rereading the novel a couple of years ago the text revealed further issues which made the story more interesting and complex. I understood that I previously had missed certain matters important for a full understanding since reading the text as a very young person. Nevertheless, I could still feel the strong feeling of sympathy towards the man sitting in his chair while listening to recorded silence after finishing his daily work at a radio station somewhere in Germany. My conviction is now that very few things, if any, may exist in a vacuum unconnected to other matters. With this in mind, I have confronted my art and the text in this thesis. I have traced and explored plausible and not so plausible connections and through them tried to locate and place everyday sounds in the social and artistic context.

Moreover, I do not approach sound from a phenomenological perspective, instead my proposition is an understanding of everyday sounds, whether noise or silence, as a process related to and intertwined with other processes in a society. I imagine these events and flows in constant flux, ambiguous and often difficult to grasp. Sound as event rather than sound as an object.

Disposition of thesis

The thesis is divided into two parts. Part one concerns social aspects of sounds and noise while part two is devoted to the artistic side of sounds. Certain chapters in these two sections may be read as standalone texts. The Introduction serves as an entry and gives a background to my choice of subject. In chapter I a presentation of my method and theoretical framework will be given as well as my aim with the thesis and the questions my thesis rest upon. Chapter II will present different perspectives about sound music and noise such as their mutual relation and connection to space and time. Chapter III describes and discusses different issues connected to my empirical study, for example the practical and technical setup and my ideas and reflections concerning the performance. Chapter IV is based upon my evaluation and interpretation of the study. A concluding remark will finish the first part.

PART I SOCIAL ASPECTS OF SOUND

I. CHOICE OF SUBJECT – ideas and perspectives

Subject and perspective

My interests in the relationship between everyday sounds and humans are intimately connected to my background as a musician, sound technician, and student in sociology and social anthropology. The fact that a sound technician and a musician need to listen carefully and rely on good hearing made me aware of the potential power in sound, noise, and silence. Of particular interest are the emotional effects people describe they feel when listening to different sounds. Therefore, my first attention was directed to the relationship between sound and emotion.

After scanning the subject area, I found some writings in the field of acoustics concerning reactions to sounds, but the interests here were primarily directed to the relation between sound and health. Thus, there was a lot more written regarding the subject of music and emotion. Somewhere on the road, I decided to reformulate and change focus, otherwise risking being stuck in endless search to find a plausible definition of emotion, which I understand as a subject in itself. I also found myself stuck in the old issue whether to define sound/music as having a representational value or not. This last subject, with its strong tie to the aesthetic experience, has been thoroughly discussed through the history of philosophy and seemed to lead my interests in the wrong direction. Instead, the subject needed another twist, to be illustrated from another angle, and squeezed down to a manageable format.

My solution was to change focus from the emotional to the social aspects of sounds. This made me more confident while connecting to my background studying sociology and social anthropology. Further, after finishing art school a couple of years ago I took the master program Art & Technology, a program which may be characterized to advocate “crossover art” and to master technology in artistic processes.

Questions and aims

The overall purpose of this thesis is to develop as an artist. Further, the theoretical and technical explorations made serve as a support and base for my artistic process. I will investigate connections of sound to areas not so commonly reflected upon, and discuss imagery and representations of everyday sound and noise. I found the following questions frame my interests in a reasonable way, since they relate to an interdisciplinary field and address my focus towards everyday sounds by connecting them to social and artistic processes:

1. How do individuals imagine, relate to, and describe with words everyday sounds?
2. How do people describe a sound by the practise of voice imitation?

In order to find answers to these questions, or at least get some entry points into the subject, I did some serious research. I found almost no literature written in regard to these specific questions and I realized I had to ask people in one way or another. Therefore, in part I there will be a presentation of my empirical study and the outcome of three questionnaires and interviews made in Gothenburg, Sweden 2007.

The answers in the three studies are either in the form of written texts, verbal accounts, or sound imitations from informants with different backgrounds. Moreover, the collected material serves both as a base for my own artistic development and as material in my creative, explorative and artistic process in part II. As such, it will touch upon the very process of making art as well.

My use of voice imitation addresses creative processes in particular, and seeks to explore how sounds in various ways may be employed in artistic practices. Here is the human voice as material in different contexts in focus. For instance, one of the reasons for recording voice imitations is that it holds an opportunity for the respondents to describe a sound in another way than usual. As such, I was able to bring in another level of understanding and make the informants directly participate in the art process. The participants become art collaborators.

In part 2 I will discuss Sound Art, a broad concept and a category still defining itself. I will here make a review of some important pioneers in the field. In this field I will locate and define my own artworks by referencing selected artworks created during my time at school.

Methodology – frame of theory

The analytical approach I have adopted while interpreting (with a qualitative approach) my empirical studies is discourse analysis. Discourse analysis leans upon certain assumptions associated with social constructionism. Discourse may be defined as interrelated meanings that represent our social reality and constitute what we think and say and our attitudes, feelings and desires. In that definition, discourses can be used as political strategies, as a power device in keeping a certain ideology alive.¹ In other words: a discourse is one way of talking about and understanding the world. Another discourse may be another way to talk about and understand the world. Further, discourse analysis is a frame of theory about social reality rather than a method as such. It can be characterized as a rather open ended way of approaching a question while critically taking into account the informant's background and actual discourse taking place in the process. One important aim is to strive for reflection about the meaning of the author's own influence on the material and final analysis.²

Social Constructionism

Discourse analysis is rooted in social constructionism that emphasizes context in the construction of knowledge and reality. In focus is language and its attached categories by which individuals in communication and interaction constantly are defining, reinforcing, and redefining reality. Looking at humans as a subject rather than object makes it possible to follow the individual as active in its choice of repertoire or discourse. Nigel Edley (2001) drawing on Derek Edwards (1999), propose that there are two ways in which Social constructionism is applied namely:

[...] ontological and epistemic. Ontology is the study of being and existence in the world. It is the attempt to discover the fundamental categories of what exists in the world. Epistemology is the study of the nature of knowledge and how we come to know the world of things. The epistemic sense of the social constructionism rests on the notion that as soon as we began to think or talk about the world, we also necessarily begin to represent.³

Further, reality, including scientific texts and research are cultural products and as such just one amongst several competing discourses. Rather than analyzing collected texts with an explanatory theory model, my aim has been to document and search for different and similar repertoires at play regarding sound and noise in everyday language. Language is constitutive and the tool through which we order and interpret the world. While at the same time transferring our image of the world to others, language may also limit our perception of the world. Moreover, if we lack words or vocabulary for a phenomenon, we tend not to see or talk about it.⁴ Sound is one of these phenomena.

Reflections about theory and method

In my study, I have used questionnaires and informal talks as follow-ups. These techniques are never optimal because of the inherent possibility of misunderstandings and conscious or unconscious wishes leading the informants in a certain direction. Consequently, one can never be sure that the answers given are the informant's true thoughts or felt emotions about the matter. For example, many informants connected specific feelings with certain sounds. One may ask if these feelings are their own felt emotions or if they just reflect literal and cultural discourses. Intentions and worldviews will always influence the outcome, either by the type of questions that are posed by the investigator or in how the questions are presented and transferred. During the project, one has to make many decisions about what is important and what is not. Still, that is exactly what the respondents also do when answering or not answering the questions. Nevertheless, this is one of the methods we have to work with at the moment.⁵

An interesting method in giving more reliable answers perhaps may be the form of an everyday electronic diary device where during a longer period of time informants answers questions about their feelings, in company with whom, where, and so forth while listening to a sound either played electronically or in immediate surroundings. I am here referring to a study by John Sloboda et al. aiming to identify the subjective experience of emotions linked to music and context. This is a method named ESM developed by Mihály Csikszentmihályi and Judith Lefevre enabling every day experiences to be captured and studied in detail. This method seems to be well suited for sound and subjective emotional experiences.⁶

However, the aim of my project is not to focus the questions of emotional experience as such. Instead, one aim is to collect information about individual's imaginations regarding every day sounds and from that search for further connections or patterns that might be connected to other, more or less stable structures inside but also outside the individual. Finally, the collection of information, theoretical and empirical, serves as a necessary base and support for my continuing development as an artist.

Notes

- ¹ Vivien Burr. *Social Constructionism*. (New York: Routledge, 2003) pp. 85-87.
- ² Stephanie Taylor. "Locating and Conducting Discourse Analytic Research" In *Discourse as Data*. (Eds. Margaret Wetherell, Stephanie Taylor and Simeon J. Yates. London, California and New Delhi: Sage, 2003) pp. 38-39.
- ³ Vivien Burr. *Social Constructionism* (New York: Routledge, 2003) p. 92.
- ⁴ Margaret Wetherell, *Discourse as Data*. (UK: The Open University) p. 8 and Mats Börjesson. *Diskurser och konstruktioner - En sorts metodbok* (Lund: Studentlitteratur 2003) p. 170.
- ⁵ Mats Börjesson. *Diskurser och konstruktioner – En sorts metodbok* (Lund: Studentlitteratur 2003) pp. 100-105.
- ⁶ Susan A. O'Neill and John A. Sloboda. "Emotions In Everyday Listening To Music" In *music and emotion - theory and research* (eds. Patrik. N. Juslin and John A. Sloboda. New York: Oxford University Press, 2001) p. 417.

II. ASPECTS OF SOUND – perspectives and definitions

What is sound?

The definition and understanding of sounds depends on the backgrounds of the individuals and requires considerations relating to time and space. For different reasons I will separate music and sound and define sound as every sound that is not intended to be music, although this definition should not prevent sound to be perceived as music or music as sound. On the contrary, in my world, music is constructed of two things, sound, noise and silence. To start with, let us look at the complex concept of sound, from different points of view.

Acoustic and electric characteristics of sound

Through history, many scientists and philosophers have been studying sound as a phenomenon. For instance, examples from early Greek philosophy are Plato, Archytas, Anaxagoras and Aristotle. In *Three books about the soul*,¹ Aristotle states that a sound demands more than one matter and movements in air to emanate. One object hitting another object triggers a movement in air and creates a sound if the material of the two objects is right. He concludes that everything which can move all the way to our ears without interruption has the ability to be sound since the ear is connected to the outside air. Aristotle thought of the air as in itself silent because of its ability to easily become decomposed. He meant that it is when the air is prevented to be decomposed the movement of the air becomes a sound. Aristotle was talking about these moving parts as something animated. He imagined the air in the ear as something that was unable to move since its function was to make accurate measurements and perceive all the different movements.¹

In the Renaissance, empirical studies and the exploration of human bodies become more extensive. At this time, Leonardo Da Vinci made experiments with echo and resonances. He was able to show examples of resonance by pointing at the phenomenon where a vibrating string on a violin caused the same string on another violin to vibrate and sound.

In the 1500s in Italy Berengario de Capri found two small bones in the ear and was able, from further investigations, to formulate a theory that still holds. Thereafter, another Italian found a third bone functioning as a transmitter for the wave propagation in the ear. Later in the same decade, a third Italian, Eustachius, found the ear trumpet, later named after him. In the 1700s, Antonia Cotugno wrote a dissertation about the liquid in the inner ear. This liquid, he stated, lead to the vibrations in this part of the ear. Other scientists such as Francis Bacon, Marin Mersenne, and later Isaac Newton and Cassini made experiments regarding the speed of sounds and in the beginning of the 1700s; scientists agreed that sounds needed a medium for transportation.

In the middle of the 1800s, Philip Reis was able to transform sound vibrations into electrical current.² In the 1860s; he built the first prototype of a telephone. He based this on knowledge from his earlier investigation of the organs of hearing, but unfortunately, found no sponsor supporting his idea. Later followers to Reis' discovery were Edison-Bell and Emile Berliner who further developed the telephone.³

The year 1877 was the year when Thomas Alva Edison managed to produce a gramophone by

attaching a stylus onto a membrane and with his own voice shouting a hallo in front of it. The membrane moved by the air pressure created. At the same moment he shouted a hallo, he moved a waxed paper beneath the stylus, which in its turn created a track in the soft wax. He could then reproduce the voice saying hallo, although at a very low level, by dragging the waxed paper beneath the stylus. Edison called his apparatus the Phonograph.⁴ This discovery created a completely new scenario for how sounds could be perceived and used.

Douglas Kahn states:

[...] the mere existence of phonography - its ability to hold any one sound and in time and keep all sounds in mind produced a new status for hearing, which was energetically entered into libraries, laboratories, literature, artistic ideas, and philosophies.⁵

Contemporary ideas about sound

A scientist of today describing a sound may talk about propagating waves or vibrations through different material like air or water. These vibrations will eventually reach the ear and finally the brain. Another way of characterizing the event from a micro level point of view is by using descriptions of gas particles being compressed or expanded in air. A musician or other person may be aware of the scientific ways of explaining sounds but a musician will probably consider the aesthetic aspect when composing, expressing and performing. At the same time, both an ordinary person together with the physicist will take into account aesthetic issues when listening to music or the waves of the sea. All of them would probably agree that sound as well as silence together with music and noise may create certain effects, either emotional or physical, by inducing memory flashbacks and other associations. With this in mind, we can immediately conclude that sound is a complex issue.

Within another perspective, sound might be defined by its relation to time, as an event expanding in time. As such, as soon one hears a specific sound it will eventually decay. Sound is time and space. As Bruce R. Smith argues, “cognitively at least, you know now that sound is the heard experience of two dimensions: space and time.”⁶

Walter Ong continues the discussion while looking at sound by opposing it to sight. In his opinion, sight is isolating and exterior by placing the beholders outside what they are looking at but our hearing is something interior by the way people are embedded and immersed in sound. This “world of hearing” as he calls it, will place the listener “in a center of sensation and existence” which is inaccessible for other persons.⁷ In this sense sound has no fixed place in space; it becomes an event rather than an object.

Everyday sound – representations in time and space

While particular sounds in everyday life are referred to as annoying, there are other sounds labeled as relaxing and as such now increasingly take part in the growing industry of health issues

and knowledge. Today there are designers working specifically with the sound design of places and the research in this topic will likely swell. Therefore, sounds might in the future be valued differently, denoted as a commodity and used as a tool in the building of sound environments. In addition, the generally perceived attractive “sound of silence” has also transformed into a commodity, something one can buy.

Peter Englund argues that the sounds on the countryside in Europe from 1000 to the 17th century did not change much and that many sounds from that time had meanings. For instance, the sound of a hard wind at Christmas Eve heralded the death of kings while hard wind on the sixth day after Christmas predicted a good harvest. Different types of winds brought different matters either in the form of sickness, lust or strength. The wind carried messages and therefore was listened to by people.⁸

In his book *Ocean of Sounds*, David Toop reports from a journey along the river of Orinoco in the Venezuelan tropical forest. He felt overwhelmed by the loudness of sounds in the jungle and “the night noises of frogs, cicadas and insects build to a swarming complexity”⁹

Moreover:

the dogs of Toki start barking and carry on for ten minutes, each bark echoing at the same volume a split second later from the opposite side of the river. Sleep is barely possible. A bat is flying about, either in the boat or in my imagination, and nearby I hear an animal snorting loudly like a train.¹⁰

David Toop is referring to the ambience of Venezuelan tropical forest that sounds quite different from most of the places people are living in. Referred to as a very loud place to be, city dwellers may easily imagine the lack of silence.

We are immersed in sounds every day. It can be what we call music, it might be the sound of the sea, the many voices from fellow people, traffic, the deep drone of electric waves penetrating our living rooms, and the real time mixing of everything you hear just now. Sound is any sound without intention to be music. This definition, however, should not prevent anyone defining or perceiving sound as music.

Is sound music?

Sometimes sounds might be perceived as music and music defined as sounds. Despite a common separation between sound and music as categories, they nonetheless have the same power on evoking subjective feelings or at least powerful thoughts about feelings, nostalgic and romantic associations such as for instance, from childhood, vacations, and beloved ones. Nevertheless, it is more common to talk about music in everyday life, compared to talk about everyday sounds. In general, one can say that people show more knowledge in music (at least in the highly technologized world) than in sound as such. We normally listen and pay attention to music because we want to, contrary to how we commonly relate to our surrounding ambience. Along with the category of music goes shared connotations, a common vocabulary, and frames of

reference more or less specialized depending if the person is a professional musician or not. In music, there are typically shared ideas and values that are closely connected to identity and belongings. The meaning of music compared to the meaning of sound is implicitly different. This is something we learn and accept for the sake of convenience and, in another layer, for the sake of aesthetics and taste. When checking the different statements and attached meaning to the two categories of sound and music (in our westernized society), the division and use of two dividing concepts (at least up until now) are understandable. At one hand, we have the commodity of music with its own changeable laws and rules for production and manufacturing, and at the other hand, the sound/noise of the world in constant flux, with its somewhat anarchistic and diffuse boundaries, seemingly owned by everyone and no one.

Sound + music + silence = noise

What is then noise? Most people agree that what one individual or culture defines as noise will be another person or culture's music and from that follow that noise is subjective. In Sweden, the translation of the category noise is commonly either "buller" or "brus" which denotes noise from different sources and may also mean different value connotations and imply different levels of volume. The word "buller" in Sweden is normally connected with unwanted sounds. The category "brus" at the other hand, may be defined as either positive or negative. For instance, sounds from the sea is often mentioned as "brus", more specific "havsbrus", and valued as positive while sounds from computers, fans and distant traffic, also are denoted as "brus", for example, "trafikbrus", often denotes a negative sound.

However, to complicate things, noise is sound. Further, we have different noises, for example "pink noise" categorized and valued by some musicians as slightly more "musical" than white noise, which is an artefact from machines. Both colored noise and white noise is defined as a randomized signal. Moreover, the sounds of the sea waves and the rustles of leaves in the wind also contain all possible frequencies and are characterized by its randomized behaviour. Consequently, they are noises as well, although often labeled as "natural noise" because of its even distribution of intensity in every octave or in between any other musical interval. This has to be compared with white noise, which has its energy evenly distributed in all the frequencies. As my supervisor Palle Dahlstedt said, this is adapted to our hearing since we perceive white noise as "harder" than pink noise or "natural" noises.

According to my empirical investigation, the sounds of sea waves are commonly valued as highly desirable sounds by people. In the study there are also people mentioning the sound of rustling leaves as a very positive sound. Obviously, noises like these might be perceived as something highly pleasant.

In *Joys of Noise*, Henry Cowell states that there are no sounds that are completely free of noise and a strictly pure sinus tone can only be created in a special laboratory. He deconstructs the commonly stated oppositions between noise and sound. In other words, is it convenient to speak about noise as the counterpart to sound? Is it functional, or correct, to refer to noise as something negative in general? ¹¹ Further, in the composing situation with non-traditional elements, noises are considered a crucial resource and referred to as just noises, leaving out the word "music" to mark its separation from music and the structures connected with western music tradition.

The composer Edgar Varèse defined music in the early twentieth century as "organized sound", ¹² since he found the music tradition limiting when composing. John Cage simply declared music

as being all the sounds and noises around us.

Perspectives stated by Jacques Attali

The economist Jacques Attali listens at sound and noise from another angle. He did a comparative macro study of capitalistic and feudal societies and emphasized the importance of music and noise, claiming that music should be understood as a mirror with explanatory potential.¹³ He problematizes and politicizes sound when declaring noise as something we not only hear in the streets or in music; noise is also the same as violence. While looking at music as a metaphor for the suppression of noise, he makes noise represent violence.

Moreover, he argues that noise expresses the relations between men. In doing so, he gives sound, noise and music political attributes, describing them as tools for analyzing and understanding capitalist and feudal societies. He concludes that it is possible to understand what kind of society it is by listening to its noise since the noise tells what kind of society will come. He argues that the music and the noise always precede changes in social organizations. The institutions are slow while music aesthetics change fast. While Attali put noise in the realm of power and violence, letting “dissonance express marginalities in a society,” he sees music as “the eliminator of violence” ... “The code of music simulates the accepted rules of society.”¹⁴

...and what about silence?

Some points of departures

John Cage was interested in the concept of silence. In his book *Silence* he stated that there exists nothing such as silence. He draws this conclusion after visiting an echo chamber at Harvard University 1951. In this completely “dead” chamber, he could still hear two different sounds; one of them was the sound from his nervous system and the other from his blood circulation.¹⁵ In addition, the Canadian composer R. Murray Schafer referred to the book *All Quiet on the Western Front*, where even the dead corpses made noises. One could hear hissing and belching sounds from the corpses.¹⁶ Even after death, there will be noise. One may ask if silence is just an illusion based upon old worn out ideas based upon Cartesian dualism. Silence is perhaps better defined as (low level) sounds or noises perceived in specific contexts. A noise barely heard by the human ear.

Mark Slouka is concerned with the effects silence might have on us and how it relates to the political context. In his view, silence has the effects of both “burying and birthing us” and he discusses noise as one side effect of capitalism.¹⁷ Noises are artefacts from “buying and selling” and state that “communications has been narrowed into whatever can be squeezed into binary code...redefined by the marketplace into a commodity itself.”¹⁸ Similar ideas are to be found in Jacques Attali’s thoughts while placing silence in the political context and arguing that silence is the same as death. His idea about noise is that of a repressed noise since “Everywhere power reduces the noises made by others and adds sound prevention to its arsenal” because a capitalistic society need silence.¹⁹

Notes

- ¹ Aristotle. Transl. Kimmo Järvinen. *Tre böcker om själen*. 1998. pp. 69-71.
- ² Ewa West. "Ljud hörsel och hälsa" Version: 2006-09-15, pp. 15-18.
<http://www.issueproject.net/ftpdocs/out/TLSsweden/Ljud.pdf> 2008-04-16.
- ³ http://en.wikipedia.org/wiki/Johann_Philipp_Reis 2008-04-16.
- ⁴ Friedrich A. Kittler. Transl. Geoffrey Winthrop-Young and Michael Wutz "Gramophone" In *Gramophone, film, Typewriter* (eds. T. Lenoir and H.U. Gumbrecht. 1999) p. 21.
- ⁵ Douglas Kahn. *Noise Water Meat* 2001. p. 5.
- ⁶ Bruce R. Smith. *The Acoustic World of Early Modern England*. 1999. p. 9.
- ⁷ Walter J. Ong. *Muntlig och skriftlig kultur*. 1990. pp. 87-88.
- ⁸ Peter Englund. *Tystnadens historia*. 2005. pp.18–19.
- ⁹ David Toop. *Ocean of Sound*. 1995. pp. 225-226.
- ¹⁰ Ibid., p. 130.
- ¹¹ Henry Cowell. "The Joys of Noise" In *Audio Culture* (eds. Christoph Cox and Daniel Warner. 2006) pp. 22-23.
- ¹² Peter Manning, *Electronic and Computer music*. 2004. p. 8 and John Cage, *Silence*. 1961. p. 83.
- ¹³ Jacques Attali. *Noise – The Political Economy of Music*. 1977. pp. 9-11.
- ¹⁴ Ibid., p. 29.
- ¹⁵ John Cage. *Silence*. 1961. p. 13.
- ¹⁶ R. Murray Schafer. *The Soundscape the tuning of the world*. 1977. p. 9.
- ¹⁷ Mark Slouka, "Listening for Silence: Notes on the Aural Life" in *Audio Culture* (eds. Christoph Cox and Daniel Warner. 2006) p. 42.
- ¹⁸ Ibid., p. 45.
- ¹⁹ Jacques Attali, *Noise*. 1977. pp. 121-122.

III. THREE CASE STUDIES ideas, reflections and arrangements

Practical arrangements - the informants

In my first study, I asked people when I met them if they were interested in participating in my examination project about sound. My aim was to gather a spectrum of people with different cultural background, ages, and sexes. Later, in combination with invitations by using the mailing list at Valand School of Fine Art, I contacted friends. In the last study, I used the Internet and Facebook facilities for sending the questions. This study was limited to people who had participated either in the first and/or second study.

Five people were attending all three tests. Sixteen persons attended both the second and the last one. In all, there were 50 people with 19 nationalities attending. As already mentioned, I deliberately looked for this broad mix of people in terms of gender, age, backgrounds and nationalities, even though the study had no aim to be objective or comparative as such. Some of the people were close friends of mine, some people I knew from work and some were fellow students from the former master program at Chalmers and IT University, of Göteborg “Art & Technology”, and at Valand School of Fine Arts. The positive side of knowing people became obvious at a later stage when I needed certain information concerning matters that were private.

The first case

In the first questionnaire, (appendix I), I asked 38 persons between the age of 10 and 50 years to suggest at least two sounds they liked and two sounds they disliked. They were also asked to name the feeling best suited to describe these actual sounds. In this question, I deliberately lead the participants into a specific track of understanding sounds by using the word “feeling.” The third question asked for a description attached to the selected sound, a memory, metaphor, symbol, association or whatever came to their minds when thinking of these particular sounds. All questions were open-ended but requested answers as short as possible. Hereby the reason was to limit the research material and force the informants to mention what they really considered important.

In the first test, there was also a hidden task to be performed by the participants. My choice not to mention this task beforehand was based upon the impact it might have on the informant’s choice of sound in the first question. When the questions were all done, I asked the informants to imitate each of the sounds they earlier had chosen. Surprisingly enough considering the odd question, all except one person agreed to perform the imitations and let me record them. While reading aloud from their own texts, the participant’s stories and own thoughts were also recorded. Finally, only one person had severe difficulties to imitate the sounds, probably due to unpleasant feelings in the performance situation.

Recordings of voices – the imitation

My aim was to get an idea how the persons memorized the mentioned sounds and if the sounds were easily expressed or not. I was also interested in the somewhat sensitive situation that was artificially shaped. To imitate a car, a baby, a coffee machine, and so forth as an adult might be

perceived as a sensitive and risky situation. Not all people allow themselves to let loose in such a situation, risking making a fool of themselves. Therefore, I tried with various means not to dramatize the imitation event in order to create a relaxed and playful attitude during the recording. Another important aim was to collect sounds and voices for a sound bank to be used in future projects. The idea of making many people involved in my project in a creative way by letting them contribute their voices was tempting for me. As such, future works become more of an interactive and collective issue, not in the ordinary sense of the word interactive perhaps but in the sense of people's (imitative) response to a request. Eventually, a further response will be settled in my creative act when producing something out of the participant's voices. Later, in the exhibition moment, visitors will hopefully react and respond to this intellectually and/or emotionally.

The second case

After the first study, I carried out a follow up questionnaire with 17 persons contributing. Of these were five people who attended the first test. The informants were between the age of 21 and 65 and were asked to listen to a series of sounds through headphones (see questionnaire appendix 2). The sounds selected were related to the sounds in the first study and were simply chosen from those sounds mentioned by more than one person (one exception was the sound of a horn). The participants were asked to value the sounds just heard, i.e. decide if they liked the sound or not. There were three options given: "Yes," "No" or "I don't know." As a second question, they were asked to describe the sound they just heard with their own words and in the last question, elaborate upon why they liked or did not like the sound. Before they started the informants were verbally given the instruction to avoid thinking of the source of the sound and avoid a description referring to the sound source in the explanation. An example of a description I did not want them to give was "it sounds like a cat" (if the sound source was a cat). This instruction was also written down in the beginning of the questionnaires, and was the only explicit limitation that was made.

The third case

In the third questionnaire, the participants had to answer if they liked or did not like a specific sound (appendix 3). They were asked to be spontaneous in their answers and try not to think too much before they answered. The options were Yes, No or I do not know. All people from the second study except one attended. Sixteen persons were participating in this last study and five of these people had attending both first and second study.

About the performance and choice of locations

At an early stage, I decided to carry out the study in an informal way mainly with the aim of creating a relaxed atmosphere. While the informants answered the written questions, I was either in the same room or nearby. Concerning the first study, we met at three different places depending on the situation, either at a small studio at school, in an office at my work or at my private studio at home. My ambition was to carry out the study at places well known at least to the majority of the participants. This was more important in the first study because of the recording and performing situation. After the informants had written down their opinions, memories and stories they performed the sound imitation while I recorded. Finally, the informants had to read orally what they had written down. This was also recorded.

Considering the specific imitation and recording situation some reacted with more or less hesitation and occasionally some pep talk and discussions about the subject was needed. For some people the question about being anonymous was important, although everyone gave permission for use of their recorded voice imitations in future projects. The choice of places was primarily selected with the aim of creating a well known surrounding for the sake of enabling a comfortable recording situation. Therefore, the technical setup was given low priority. Consequently, the equipment used was simple but functional. This settlement had the possible side effect, not to be underestimated, of not scaring off people unaccustomed to recording environments and situations.

The second study was carried out either at a sound studio in Valand School of Fine Art or at my studio. For different reasons, three persons had to bring the questionnaires to their own home. These persons were given a cd and cd player with headphones and the questionnaire. They were carefully instructed and given recorded instructions at the cd together with written down instructions in the questionnaire. Further, they were told to phone me if something was unclear. A second follow up test was carried out by sending emails to all participants in the third test. This test was not that extensive as the others and was executed at the places where the respondents found suitable.

Different ways of presenting a question and reproducing a sound

The different contexts between the three studies were the character of questions and how the sounds were presented. For example, the degree of restricted answer options in the second and third study differed from to the open ended first study. Moreover, in the first study the informants were suggested to choose sounds and value them in comparison to the second and third study, where the informants were forced to relate and take a stand about specific sounds not selected by them. In addition, they had to listen to these sounds in earphones instead of only relying on their memory of the sound. In this case, the informants had to use their hearing and listening capacity and relate to given sounds immediately heard.

One might say that the instructions in the second study stressed an active listening concentrated towards a series of sounds, notably sounds, reproduced through headphones, which were not chosen by the listener. Further, when listening through headphones the sensation is perceived as a ubiquitous sound in the head or as a sound located at different spots in the head depending on the mixing. The head becomes a room and the sensation is perceived as real even when we understand that the sound cannot exist in our heads, so to speak. Additionally, the informants were in the second study instructed to avoid relating the sound to its source while listening and then describing the sound. This turned out to be hard to avoid because it is something we are trained to do from an early age.

IV. INTERPRETATIONS

Introduction

The ways people imagine and communicate environmental sounds in every day life always involve some degree of valuation and interpretation. I am particularly interested in when a sound is perceived as noise and when it is interpreted as pleasant. In addition, I want to understand the structures behind the valuation and interpretation. In some cases there are explicit cultural differences between how we value specific sounds, which depends on either culturally learned interpretations or simply the presence or absence of certain sounds in one society but not in another. The discourses about a specific sound may as well be the same in different countries.

To understand what a sound is we do not need to see the cause. We have been trained from early childhood and we get knowledge from the available cultural repertoires and discourses. Michael Forrester exemplify this by the situation of waking up in the night, hearing a scratching noise, and only by hearing the noise without seeing the source, decide that it is a rat or mouse. It is by hearing the sound that we get in our imagination an image of a mouse, so “in the same way that visual perception of an event is interdependently linked with labels, names, discourses about that event, so it is for sound.”¹

In order to exemplify this and the following discussion, I will present a sample of answers and interpretations from my three studies. I found no correlation between sex and preference for specific sounds in my samples since the informants, crossing sex and age barriers as well as borders of nationality, mainly chose the same sounds. On the contrary, one can discover some specific sounds to be more readily liked or disliked by people in one specific country compared to another. For example, the two Chinese people in the first study mentioned the wind-bell as a favourite sound. This was expected since the ambience of a Chinese rural society sounds different from, for instance, a rural village in Sweden.

Besides, some sounds may carry religious and ceremonial features in one country but not in another. People in our post modern cultures today can be characterized as relying less and less on the information the surrounding sounds give us and we see less writings in literature about positive acoustic metaphors. The notion that sounds simply seem to increasingly reflect anything other than a negative reflection of modern society seems reasonable. In earlier writings the sound of streaming water has been strongly connected with life and its processes.² In my study the associations made to streaming water mostly referred to vacations, leisure activities and were associated with words such as peace, calm and relaxation. The sea was also referred to by words like strength, dynamic, infinite, powerful and other literal connotations. Moreover, it was also possible to see some generally positive correlations with preference to sound and general discourse regarding the object causing the sound. From this it follows that an evaluation of the source or object causing the sound may determine if someone likes the sound or not.

The selected statistics related to chosen sounds from the first study will be presented on top in the different sound tables and if the same sound occurs in the second and third studies, the statistics will be presented in falling order.

Sound 01: The sound of the sea

The sound of the sea was chosen and valued by most people as a positive sound in the first study and was appreciated by a majority of people in the second and third study (see table 1 and 2). In the case of the first study, memories and associations related to the sea sound were commonly connected to childhood, vacations and leisure activities. The sound of the sea was mainly described as evoking certain effects in the informants but also described as inheriting certain qualities as power or symbolizing infinity, for example.

Words used to describe the sound of the sea in the first study were:

Calmness, relaxation, harmony, freedom, power, happiness, refreshing and infinity.

Examples of descriptions in the first study:

Example1 “ Water waves makes me feels calm and have a soothing effect”

Example2 “ Happy when I am sitting on the beach”

Example4 “Makes me associate to safety and caress and the almighty God” (authors trans.)

Example5 “Many times I found myself by the sea at night”

Example6 “Memory from childhood, a boat vacation on the west coast of Sweden (authors trans)

Example7 “Calmness, something I recognize” (authors trans)

Example8 “Mostly memory from vacations together with those beloved, freedom to do what one want and feels for. Then you can be yourself and be happy. Or have the time for deep thoughts and deep thinking “(author trans).

These examples match the answers given in the second study although the words chosen in the second study were slightly “stronger” and more dramatic. In the second study, people were listening in earphones to the sound of strong breaks of sea waves. They were also requested to listen and focus on the very sound, i.e., how the sounds sounds so to speak, and try not to bring in the cause to the sound in their description. This is difficult since we are trained to immediately value and interpret the sound, connect the sound to its cause, and further, in the same moment bring about its linked discourses, associations, and memories. This brain activity seems to be self regulated and happens almost automatically. Consequently, most of the informants instantly connected the sound to their personal memories back in time, space, and the remembered feeling experienced in these specific situations. In the second study few informants managed to describe the sound without attaching it to their personal memories. Even when starting the sentence off without making connections to themselves, they concluded with relating the sounds to themselves in one or another way. With few exceptions, big and value laden words were used to describe the sound of breaking waves, especially in the second study.

Words used to describe the noise from the sea in study 2 were:

Dynamic, natural, dangerous, infinite, inspiring, playful, unpredictable, big, powerful, happiness, pleasant, rich sound, textural, perfectly rhythmic, repeating, safe, harmony, heavy.

Examples of descriptions in study 2:

- Example1 "Big powerful beautiful. Thinking of sun,sailing,summer happiness,I feel good, happiness."(Author trans).
- Example2 "I feel a little terrible but also comfortable"
- Example3 "One day at the sea. I like that because I can feel myself taking the sun at the sea." (Auth. trans)
- Example4 "You are diving/swimming. Wild Nature/wild Sea connected to summer/holiday jump into ocean, large, no borders. You can dive into another world."
- Example5 "Calmness, repeating and safe" (author trans)
- Example6 " it makes me feel so relaxed"
- Example7 "I feels good when it's low (pitch). Another rhythm of thought"
- Example8 "Muffled dynamic and varied. Heavy, secure, naturally high proximity (author trans)
- Example9 "Textural and perfectly rhythmic. Cold but not in a bad way. Low light"
- Example10 "Complete, rich sound. Pretty dark and low but with a variation to light some times. Dynamic and slow, and then " I can listen to this during a long period of time. Calm " (author trans).

One person from Thailand did not like the sound of sea waves and described it as annoying and scary.

In example 8, 9 and 10 the informant's descriptions are not explicit addressing their own feeling connected to the sound heard, but words like secure, naturally, and calm reveal the representations at play. One of the informants expressed after performing the test that s/he found this "objective" way to describe sounds very hard, if not impossible. "It comes automatically," meaning the wonder about the sound and its cause and then the reference to the feeling and valuation of the sound. Another person said it was "almost unbearable." This person was taking his/her time answering the questions and rewrote several times his/her answers. I observed this person thinking for a long period of time before writing down any answers. I noticed this specific informant was the one who succeeded in coming closest to giving so called objective answers in describing the sounds.

100 % of the Swedes did like the sound of sea waves in the second study and the sea was the favourite sound mentioned in the first test by the individuals born in Sweden. Why it is like that one can only speculate. Perhaps it has to do with the Swedish weather and the strong connection to summer and vacation. Since Sweden in general has nasty weather during the times when most people are uptight working, the sea is associated with the desirable warmth and freedom from daily work, i.e. vacation. I wonder if the associations among fishermen in any culture should present the same associations regarding the sound of the sea.

The fact that the sound of the sea consists of all possible frequencies and as such embody the feature characterizing noise, a concept commonly described as unwanted sound, is interesting. This pertains to other "natural" noises in the study as well, for example the rustle of tree leaves. Consequently, it seems that the valuation made of an everyday sound may be determined either by how we value the cause, i.e. the sound source or sound object mixed with associated discourse and context, rather than decisions built upon questions regarding tones or noises in the sound. It is easy to assume that a sound may become noise or unwanted and negative in another context, if the source (or context) loses its positive value. There may be cultural or other (personal) reasons behind this.

If we look at the third questionnaire the same informants participating in the second study simply got the question if they liked the sound of breaking waves. No one was giving an answer contradicting what they answered in the first study (see table 1 p.18)

Table I. Sounds mentioned as pleasant in the first study compared to valuations done by informants in the second study by listening to these sounds and the informant's answers in the third study - a selection:

STREAMING WATER:	% positive to sound	Amount of people and Country
Study 1: <i>Sea waves/The sea/Roar from the sea</i> (chosen as a positive sound)	42	12 persons from Sweden, 4 from Thailand, 1 from India, Greece, and Serbia respectively mentioning this sound as positive.
<i>Streams/waterfall/brooks/brooklets</i> (chosen as a positive sound)	18	4 persons from Sweden, 1 from Island, Palestine, and Colombia.
<i>Rain against Wineleaf/Tent/Woodenroof/Window and Hard rain</i> (chosen as a positive sound)	18	2 Sweden, 1 from Germany, Serbia, Bangladesh, Palestine and Greece respectively.
Study no 2: Informants were listening to the sound of:		
1. <i>Strong breaks of sea waves</i>	88	8 persons from Sweden (100%), 1 person from Norway, Japan, Brazil, The Philipines, Greece, Austria and Canada liked the sound 1 from Thailand selected the No alternative and 1 from Finland selected the Do not know option.
2. <i>Streaming water</i>	82	8 person from Sweden (100%), 1 person from Norway, Finland, Japan, Greece, Austria and Thailand respectively 1 person from Canada do not like the sound, 1 person from the Philipines and 1 from Brazil answered I do not know.

Study no. 2:	% positive to sound	Amount of people and Country
Informants were listening to the sound of:		
3. <i>Rain</i>	82	7 persons from Sweden, 1 from Japan, Thailand, Brazil, Norway, Austria, Finland, and Greece respectively liked this sound. 1 person from Sweden choose the No alternative and 1 person from Canada and the Philipines answer I Don't know.
Study no. 3: Informants answers whether they liked or not liked:		
1. <i>The sound of breaking waves</i>	82	8 persons from Sweden (100%) 1 from Norway, Canada, Brazil, Austria, Japan, and the Filipines liked the sound. 1 person from Thailand did not like the sound. 2 persons from Finland and Sweden answered I Do not know.

Sound 02: The sound of streaming water

Other positive streaming noises people mentioned were brooklets, murmuring water and waterfall (see table 1 and 2).

Common words used for describing brooklet sounds was:

Calm, harmony, piece and quiet, relaxing, peaceful and youth.

The associations was occasionally linked to childhood and youth but no one related to vacations or leisure activities as was common in the case of sound of the sea. The relaxed feeling was commonly connected to other steaming water as well.

Examples of descriptions in the first study:

Example1 “Relaxing at a spiritual level” (author trans).

Example2 “...the children was young and I was longing for a more smooth still and quiet life” (author trans)

In the second study, the informants listened to streaming water and all informants from Sweden answer that they liked the sound.

Examples of descriptions in the second study:

Example1 “I know this is supposed to be relaxing but I find it kind of irritating. Too random, I don’t know.”

Example2 “Singing, clear, clean, with nuances, light and dark with air in it” (author trans)

Example3 “Consistency/lingering/endless”

Example4 “Flow, dynamic Nice noisy background and variation ripple”

Example5 “Always water sound makes me relaxed”

Example6 “...rippled beautiful and great sound. Calming and relaxing for the soul.”

Example7 “Murmuring, reminds me of childhood”

Example8 “sleepy and uncontrollable sound. A bit cold and hard but not too much...”

Example9 “Naturally murmuring water that softens. Feels comforting and natural”

Example10 “...life-giving”

Sound 03: The sound of rain

Rain was also enabling many memories from childhood and was almost valued positive by the same amount of people that perceived the sea as a positive sound. (see table 1 and 2). No one were considering the rain as “standing in it” or becoming wet. One person in the second study concluded that “...rain when we are in it we don’t pay attention to the sounds it makes, so probably this should feel like I am looking at it...”

Common words used for describing rain:

Cosy, warm, happy, happiness, home feeling, excitement, relaxation, and warm feeling.

In study one six out of seven people described their associations to rain sound in the form of memories connected to past times, family and childhood. The descriptions of this particular sound did not address personal memories when listening to the sound in earphones in the second study. The connections made were different and more poetic in language (see example 2 and 4). One can say a more distant language was used while not explicitly referring to any specific personal memory except for no 5 perhaps. In example 10, the informant's read in an interpretation of what the sound means for the weather. This is not so common today, especially among young persons. Most of the examples express the effect the sound has on themselves. When referring to the effects felt by the informant, the words describing the feeling tends to be more impersonal compared with the words used in study one.

Examples from the first study:

Example1 "reminds me of rainy autumn Sundays in Dresden"

Example2 "Is the sound of Mediterranean sea brings me back there, I am moving there"

Example3 "...when I'd watched the rain for a while and then hit the bed with a book or with some music to go with the sound of rain"

Example4 "recalls the memory of my childhood and family"

Examples from the second study:

Example1 "diffuse and without expression" (author trans).

Example2 "I love this sound. When I hear this I feel myself as a very silent object"

Example3 "wet/fresh/sleepy"

Example4 "It hypnotizes you like starring into fire a collapse of drops"

Example5 "Oh, it is nice with a cup of coffee inside the house. It recalls nice smells also."

Example6 "...sounds calming"

Example7 "Mystical and dark but also a sound that makes me thinks about spring and plants"(author trans)

Example8 "muffled monolithic dull – pleasant relaxed and cool" (authors trans).

Example9 "Many levels in distance, hardness and volume. Short and long hard and light. Wet. Nuances and possible to listen at a loooong period of time" (authors trans)

Example10 "An environmental noise that tells me that it is going to be cold outside, but I still like it. I find it textural and full."

Sound 04: The sound of birds

The sound of birds was ranked as a favourite sound by many and was the only sound that was given a positive value by everyone in the third study (see table 3).

Common words used for describing birdsong:

Inspiration, happiness, relaxation, summer, spring, fairytale, beauty, and hope.

Table 3

BIRDSONG/CHIRPING BIRDS:	% positive to the sound	Amount of people and Country
Study no.1: <i>Swedish birds/Nightingale/ Blackbird/Owl/Seagull/</i> (chosen as a positive sound)	31	4 people from Sweden, 2 people from Thailand, 1 person from Serbia, China, India, Palestine, Colombia, and Austria/Schweizerland respectively mentioned songs from birds or specific birds as a positive sound. 1 person from Sweden mentioned "yelling" Seagulls as a negative sound
Study no. 2: Informants listened to the sound of: <i>Birds singing</i>	94	8 people from Sweden (100%), and all of the other participants were positive except 1 person from Brazil who answered I Don't know.
Study no.3: Informants answers whether they liked or not liked: <i>The sound of birds (song)</i>	100	All participants liked the sound

Examples from the first study:

Example1 "A symbol of peaceful and relaxed freedom"

Example2 " Always symbolizing peace"

Example3 "relax, nature, freshness"

Example4 " Makes me feel free, fresh air and happiness"

Example5 "Spring is here, warmer weather and less clothes"

Example6 " a memory of living by the sea (gulls)Example 7 "A symbol of calm, nonexistent place"

Examples from the second study:

Example1 "fresh air, comfortable, refresh"

Example2 "...You see a blue sky, trees, spring, positive happy feeling"

Example3 "Tranquil and relaxing, but sort of boring. Would be more interesting if I could smell the water"

Example4 "...wonderful spring" (author trans)

Example5 "...calmness, tranquil, give safety" (authors trans)

Example6 "Spring, expectations for the summer to come. The beauty of nature. The here and now. Life"

Example7 "Birds are little monsters, they don't sing for the beauty for it. They sing because they want something"

Example8 "Not one sound but many short ones, singing, light sounds. soft and natural (author trans)

Example9 "Sounds of nature and birds singing, it feels like I am somewhere nice spending leisure time and the sun is in my face"

Example10 "Rich treble, chatter/chirping, frasebased/communicative. Associations to walks in wood – thinking of mixed forest" (authors trans).

The person in example 7 above chooses the "I don't know" option concerning the sound of birds. In the third study, this person answered with a positive value at the question whether s/he liked the sound of birds. Perhaps the recorded sound did not match the sound of the bird s/he remembered or maybe s/he simply is ambivalent concerning birds (song). I did not get any clear answer when asking. We can see that the associations made in study one are repeated in the second study.

Sound 05: Mutter from baby

Table 5

MUTTER FROM BABY Baby expressing ambivalent feelings	% positive to sound	Amount of people and Country
Study no. 1: (chosen as a positive sound)	8	2 from Sweden and 1 from China mentioned this sound as positive 1 person from Sweden mentioned scream from babies as negative.
Study no.2: Informants were listening to the sound of a baby expressing ambivalent feelings	58	6 people from Sweden, 1 person from Brazil Canada, Norway, and the Philipines respectively were positive to the sound. 2 persons, 1 from Sweden and 1 from Austria did not like the sound. 5 persons, 1 from Sweden, Thailand, Greece, Finland, and Japan respectively did not know if they liked or did not like the sound.

This sound inspired the informants to talk about the baby instead of the sound as such, either in the meaning of sound as signalling, the informants or cultural opinion about babies in general or the effect the sound/baby had on themselves. Even though they were instructed to just listen to the sound as such (demanded for all the sounds in the second study), and not to the cause of it, most informants tried to interpret the meaning of the sound. Others just described babies in general with positive features. The three persons in the first study are all very fond of babies and want (long for) babies. The same holds true for some of the persons in the second study. Some of the informants that answered “they don’t know” or they do not like the sound also said that they are not fond of babies.

Besides, the sound of the baby streamed in earphones was not the sound of a wholly pleased and content baby, instead the baby were recorded when having a (possible) stomach pain. People who gave a positive value to the sound seemed to ignore or answer in an uncertain way and expressed to a big extent a general (romantic) view of babies. One may interpret this as a positive correlation between a wish to tune towards the norm, the expected attitude towards babies and as such a tendency to answer in accordance to cultural and/or personal wishes.

Common words used in describing the sound from a baby in the first study:

Lovely, future, makes me happy, happiness, hope and inspiration in life

Examples from the second study:

Example I “Defenceless, children are cute.”

- Example2 "Something needs attention, blubbering. I am no fan of small kids so..."
- Example3 "Naïve/troublesome/innocent"
- Example4 "The sound tries to express a feeling of becoming attracted attention"
- Example5 "cute, cosy, and human"
- Example6 "content, communicative"
- Example7 "Messy, confused want attention"
- Example8 "Soft splash. Gives the sensation of warmness. Reminds me of my sisters children"
- Example9 "Unclear, non understandable...a bit sharp."
- Example10 "Its not so bad, but also I don't think I like this too much."
- Example11 "Pleasant, harmonic curious, cosy"
- Example12 "Like small cough's and hawks, crying? Ambiguous signals, do not feel good? I get nervous"
- Example13 "Confused, but not unpleasant, "meandering"The process of figuring something out."
- Example14 "It sounds like a baby trying to communicate, not sad or angry, therefore not negative but I don't know what it means (I am not very comfortable around babies)."
- Example15 "Several different short vibrating sounds. Together they sound unstable, very much up and down. It is exciting. The sound makes me focused and concentrated."

Sound 06: Sound from (fog)horn

This sound has a strong correlation to Sweden while it is heard every first Monday in the month all over the country. It is a signal called "provlarm," translated "test alarm." Every kid learns that this sound will be checked every first Monday in the month at 15:00 (nowadays every third month) and if this sound is heard any other day one must immediately turn on a radio or a TV because a catastrophe or something extremely important is going to be announced. Therefore, Swedes associate normally this sound strongly with wars and other catastrophes. It is a signal that represents something unwanted.

Table 6.

SOUND FROM HORN:	% negative to sound	Amount of people and Country
Study no. 1: A special alarm that sounds the first Monday every month in all of Sweden (chosen as a negative sound)		I person from Sweden mentioned this sound as negative.
Study no. 2:	65	8 persons from Sweden (100 %) and 1 person from Thailand, Brazil, and The Philipines respectively were negative to this sound.
	29% were positive	5 persons liked the sound; 1 from Norway, Finland, Canada, Japan and Austria respectively. 1 person from Greece answered I do not know.

Words Swedish people used for describing the sound of the specific horn signal sound:

Stress, danger, unpleasant, cutting, stopping sound, fear for war, unsafe sharp, high

One person from Sweden in the first study mentioned this sound as negative. In the second study when people listened to this specific sound in earphones, all the Swedish people valued the sound as negative although, remember (!), they were instructed to listen and describe only what they heard, i.e. how the sound sounds so to speak. At the same time, people from other countries answered that they liked the sound or did not know or did not like it.

Swedish examples:

Example 1 "It sounds like danger, it is stressing, unpleasant"

Example 2 "Monotony ... like ice along your backbones"

Example 3 "Unpleasant, pompous, reminds of war or better that we live in peace"

Example 4 "An alarm very extended. Reminds of war and dangers at the same time beautiful but...the unpleasant feeling is still there"

Example 5 "Fear for war, unsafety/artificial safety and angry presence"

Example 6 "Sharp persistent tone. Give me a feeling of danger"

Example 7 "stressing and danger"

Example 8 "Cutting and stopping sound"

Example 9 " Loud, nasal, I canon. Associative painful. Possible danger."

Examples from positive, negative and I do not know answers (other cultures):

Example 1 "Distant dark. Cool air. Clear. Vaguely mysterious"

Example 2 "3D sound. Have a nice after effect, after sound. Makes space around it. Goes up and down. Interesting."

Example 3 "Depth, echo paints this large space sea, horizon, far away a sound you hear when you are alone it echoes inside you."

Example 4 "I feel something...as if I am at twilight zone"

Example 5 "...kind and wet. Loooong. ..."

Example 6 "Sounds either like a ship or train. If I am on it or ready to take a trip myself, I love it. If I work for somewhere close and have to listen to it without going anywhere I will probably be annoyed."

Example 7 "It reminded me of taking a trip in a boat to a city. It was never fun to be awake from a deep sleep when this signal starts to sound informing everyone that we all are almost there on our destination."

Example 8 "Loud/High pitched/headache"

Example 9 "Too long and strong"

Sound 07: Mixed sound of traffic and birdsong

The sound from traffic was a sound mentioned as the most disliked in the first study. This opinion has a broad spread in many countries. On the contrary, according to my study, birdsong is a sound that most people like. When presenting a mixed sound of traffic in the background and birds singing in the foreground in the second study, some respondents gave a slightly higher positive valuation compared with the answers based on the extremely negative thoughts about traffic that were commented beforehand.

For instance, four persons did find this mixed sound positive. These people had beforehand mentioned traffic as something they disliked, either two times in the first and third test or only in the third test. These persons answered, after listening to this sound in the second test, that they liked it for different reasons. There may be different explanations for that. Furthermore, two people answered that they did not like the sound of traffic in the third study but answered, "I don't know" when listening to the mixed sound of birds and traffic.

Two other persons that answered, “I don’t know “ did not change their opinion.

One person answered that s/he liked the sound of traffic in the third study but gave a negative answer in the second study. Otherwise, the rest answered in line with what they answered in the other studies. Compared with the expressions and language used within the first study, the descriptions in the second test were not, in general, filled with strong negative feelings.

This sound was a mix between two sounds and the informants heard birdsong as the closest sound. It was heard clearly compared with that of traffic mixed in the background. While birdsong in general seems to be a highly appreciated sound one may interpret this as a tendency in some people to listen more to sounds that gives them pleasure and meaningful information and ignore the ones that are disliked. This is not possible if the disturbing sound is heard very loud and masking the other sounds. All the people in the following study noticed birdsong as a sound they liked. Perhaps the few positive answers depend on the associations to the freedom of summer holidays since birdsong normally is associated with summer and holidays. The proximity of the birdsong may here evoke such a strong image of positive memories that it outweighs the negative image of traffic that sounds in the background. Another reasonable explanation is that these persons ideas of how “negative” traffic sounds is different from the actual streamed sound of traffic presented. I suppose the parameters that may be influencing are too complex to sort out in this specific case.

Words used in the first study describing noise from traffic:

I cannot hear, fainting, crazy, being angry, annoying, madness, stress, worries about our environment, irritation, disturbing, noise, sickness, destroyed environment, fatigue, damned! unsafe, uncomfortable, provocative.

Examples from the first study:

- Example1 “a stupid thing, inhumane”
- Example2 “ get angry at the driver who expel others for dangerous exhaust fumes and noise”
- Example3 “waste of resources”
- Example4 “I am waiting for the bus, it is too loud to hear oneself”
- Example5 “Make the balcony unuseful”
- Example6 “I remember not being able to breath from traffic”
- Example7 “reminds of chaos of huge populations”
- Example8 “Symbolizes how bad humans taking care of the environment and air pollution”
- Example9 “Disturbing the silence, give a unpleasant urban feeling, noise”
- Example10 “A big man who wear the black shirt and sunglasses”

Negative examples describing the sound of traffic / birds in the second study:

- Example1 “messy/dirty/pollution but the birds still survive!!”
- Example2 “to fastly going up and down. 3D sound. Quite low sound but comes to near you to fast”
- Example3 “High traffic road close to nature. If I was standing in a spot like that I would be annoyed by the passing cars”
- Example4 “Disturbing, messy and dirty. Traffic meets birdsong. Feels disturbing and irritating” (authors trans)
- Example5 “crossing a street is never nice”
- Example6 “comes and goes. Stronger – weaker, drown the birds. I become irritated, tired and angry.Environmental pollution” (author trans)
- Example7 “Like the sound in some way at the same time it reminds me of the uncontrollable development

Positive examples about traffic / birds:

Example1 "I am on vacation, on my way. Sounds exciting" (author trans)

Example2 "Dynamic, two voiced, bourdon of wave formed movements, Melody voice in chirping. Nice balance in the sound image" (authors trans)

Example3 "activity, freedom, transportation is possible"(authors trans)

Example4 "a worried high sound is repeated, increasing and disappear. Then light short sounds will enter. A meeting between sounds" (authors trans).

I do not know examples:

Example1 "You don't stay here for long. You are in a place in between places, dopplereffect. Paints picture of something going"

Example2 "If I always here this sound this is very annoying. But if I am walking a road it's not so bad"

Example3 "Lying in bed in Canada listening to the rest of Canada. The city go about its day"

Sound 08: Frequent sounding of car horns

The sound of car horns serve as a good example since having two or more meanings attached. According to the context, people were choosing either the positive or the negative valuation. While two persons in the second study explicit expressed their dislike of the sound of car horns, they changed their minds when they heard the reproduced sounds of car horns presented in earphones. In this particular situation, they were referring to big football events/victories and a feeling of summer respectively.

At least one of these persons is much fond of football. Here the listening of the sound seems to have a stronger impact compared to remembering a sound "in the head" so to speak. The cultural norm is perhaps at work as well. One person commenting on the question about car horns said, "of course, no one can possible like the sound of car horns!" Another person commented with an angry voice a friend telling him/her that s/he was ambivalent concerning the sound of car horns, "It's not possible to like that!!" meaning the sound of car horns. One of the respondents answering that s/he liked the sound in the second study answered both yes and no in the third study. Most of the respondents were negative to both traffic noises and the sound from blowing car horns (see table no. 7)

Words used in the first study describing the sound of car horns:

Anxious, nervous, time is running away, stressing, anger, memory from Rome

Examples of negative answers in the second study:

Example1 "It reminds me of my experience in my country's capital city. Heavy traffic is everywhere and I felt stressed.... I feel so much pressure whenever I hear this"

Example2 "Sound creamy, chaotic. Feels the stress and the hectic"(authors trans)

Example3 "Traffic Jam. Horrible. Why should they beep that much? Idiots!"

Example4 "Irritating never ending tone sound. Evoke anger (author trans)

Example5 "Tonal atonal, shrill. Not esthetical. Without charm. Attention seeking"(author trans)

Example6 "Disharmony. High pitched shrilled tones. Aggressive. I become angry, nervous"(author trans)

Example7 "I feel peoples selfish ego"

Example8 “messy/chaotic/over-populated/in hurry”

Example9 “Like absolutely nothing is going to get done. Constant frustration”

Example10 “annoying, horn disrupt, call attention

Examples of positive answers in the second study:

Example1 “Happy, attention seeking, safety”(author trans)

Example2 “Italy won EM in football”(author trans)

Example3 “Musical and Rhythmical. Up and down. Down and up. Vibrating and a bit sharp – comic and a bit childish”(author trans)

Table 7

SOUNDS FROM TRAFFIC:	% negative to sound	Amount of people and Country
<p>Study no. 1:</p> <p>1. <i>Cars/Traffic/Traffic noises/ Car and motorbike engine/Heavy traffic/ Loud Traffic/Car Traffic/The roar of Traffic/ Idle Car/Rushing Car engines</i> (chosen as a negative sound)</p> <p>2. <i>The sound of Car horns</i> (chosen as a negative sound)</p>	<p>42</p> <p>5</p>	<p>9 people from Sweden, 2 from Thailand, 1 person from Colombia, China, Palestine, Austria/Switzerland and Island respectively.</p> <p>1 person from Sweden and 1 person from Greece.</p>
<p>Study no.2:</p> <p>Informants were listening to the sound of:</p> <p>1. <i>Cars in the background mixed with bird song in the front</i></p> <p>2. <i>The sound of Car horns</i></p>	<p>53</p> <p>23 % were positive</p> <p>23 % did not know</p> <p>71</p> <p>23% were positive</p> <p>6% did not know</p>	<p>5 persons from Sweden, 1 person from Thailand, Finland, Greece and Brazil was negative.</p> <p>3 persons from Sweden and 1 person from Norway was positive.</p> <p>1 person from the Philipines, Canada, Austria and Japan did not know if they liked or not liked the sound.</p> <p>4 persons from Sweden, 1 from Brazil, Japan, Greece, Thailand, Canada, Austria, and The Filipines did not like the sound.</p> <p>4 persons, 3 from Sweden like it</p> <p>1 person from Finland did not know.</p>

<p>Study no.3: Informants answered whether they liked or not liked the sound of:</p> <p><i>1. Traffic</i></p>		<p>7 persons from Sweden, 1 person from Finland, Norway, Thailand, Brazil, Japan, and The Filipines respectively were negative.</p> <p>1 person from Sweden liked the sound of traffic and 2 persons; 1 from Canada and 1 from Austria did not know.</p>
<p><i>2. Car horns</i></p>		<p>6 people from Sweden did not like the sound of car horns. (1 Swede has answer yes/no) all the other countries are negative to the sound. 1 person from Sweden like the sound and 1 from Sweden answer Yes/No.</p>

CONCLUDING REMARKS – end of part I

In the first section of this thesis, I have defined and discussed the concepts of sound, noise, silence and music from different perspectives. Apparently, sound is a complex concept at constant flux and connected to many layers and levels in society. The fact that we do not talk about everyday sounds before it calls our attention and lack a precise terminology gives the phenomenon of sound a kind of secret but interesting flavour. Another question follows almost naturally here: why is it so and do we listen enough?

If we compare our ability to describe with words what we see with the ability to describe what we hear, we immediately discover a discrepancy. For example, it is possible to describe a situation or an object we see with simple terminology reliable for all people. The description of a house for example, can simply be done with reference to a common terminology regarding form and colour. Furthermore, while imagining the many ways, and the many different words and details one can use in a description of a person entering a door in a house compared to a description regarding how the sound sounds when the person enters a door in a house, the difference becomes even more obvious.

In certain situations, when we lack the words, the imitations of sounds are a possible “way out.” The imitation practice is most apparent in the learning situation of young kids. However, imitations, either oral or others, are in constant flow and work at any levels and situations in a society. If we did not practise imitation we would not have what we call a society. Imitation is one cornerstone in understanding the world, to learn about and understand the other. Imitation is also, I would say, closely connected to the very reinforcement of discourses.

I have searched for consistencies as well as inconsistencies in people's descriptions about everyday sounds and tried to illuminate sounds in relation to discourses in society and social context. By discussing the informant's personal preferences to sounds by linking these to their own descriptions about the very same sounds it has been possible to trace different discourses at play in some specific sounds. In general, one can see a preference among my informants for so called natural sounds, but far from always. Further, sounds that are emanating from analogue and digital machines were often mentioned as causing irritation and annoyance, especially in the first test. However, in certain contexts the same people that valued a certain sound negatively would in another test value the same sound as positive. For example, the sound of loud beeping car horns were in some situations perceived as positive by some persons and considered being negative by the same people in another test. One person simply said that the sound of car horns could save one's life, but, as s/he said, in another way it could be annoying having car horns beeping outside one's home.

Some cultural difference could be presented, most explicit was the example with (fog)horn signal sounding every first Monday in the month all over Sweden. 100% of the Swedes disliked this sound since it is associated with a possible catastrophe. This connection did not exist in other nationalities, although the sound was not liked by some people from other cultures than Sweden. R. Murray Schafer shows in his investigations made around the world in the 60's and 70's that the noise receiving the most complaints from the public in all countries when counting all the studies made, traffic was the sound mentioned most. Then comes noise from construction and at third place was noise from industry. He shows with the help of statistics that the everyday sounds people mentioned as disturbing depended outmost on which society they lived in. For example, in Johannesburg 1972 people were complaining mostly at noises from animals and birds. In Chicago by the same time, air-conditioners were suffering the most complaints. In England the traffic was highest on the lists of complaints. In Munich noisy restaurants were at top and in Paris domestic and neighborhood noise had the largest number of complaints in the seventies.

If these studies were done today probably other sounds would be mentioned because of the overall rapid change in societies. Schafer was able to support the hypothesis that the place one is born and raised at influences individuals in their interpretation and valuation of everyday sounds. He is talking about the general influence from climate and geography, and the absence or proximity of the sea for instance. In countries where the people live by the sea they generally like the sound of the sea while in Switzerland where the brooks and waterfalls are common, the people mentioned the sounds from these particular waterstreams as being most positive.³ Moreover, in my study a person from Bangladesh liked the sound of a modem connecting to the Internet, while it was not so many years since they got access to computers and Internet (the informants own explanation). This sound was reminding of the precious times s/he could spend with a computer and the Internet. Another person liked the sound from generators and associated this sound with euphoria, creativity, and togetherness. This connection was done because of this person's memory of rave parties in the past.

The sound of streaming water in different forms was a sound described as evoking most positive feelings and associations among people. The second most positive sound mentioned was birdsong. The sound of traffic was the sound most mentioned as evoking negative feelings and associations. Nevertheless, Henrik Karlsson noticed a big waterfall and a highway with lots of cars almost sounds the same and the level of volume is approximately 70 dB from both sources. Why may traffic noise provoke permanent sleeping disorders and other physical diseases while the din of big waters tends to evoke a strong positive feeling of calm and relaxation in most people? ⁴ Apparently, either differences in levels of volume or the quality of sound, i.e. the

amount of noise in a sound, can explain this. Perhaps the difference of allocations of energy in bandwidth is one reason? Once again, a so-called “natural” noise seems to have a more even distribution of energy in specific intervals, for instance in the octave interval, than machine produced white noise that have the distribution evenly spread over the whole frequency spectra. The pink noise seems to have more energy distributed in the lower frequencies. The whitest noise contains the most information and changes randomly the most but has the least meaning compared to other sounds, and people tend to listen for sounds with meaning and neglect sounds without (see p. 56).

However, another important explanation might be different representations at play, linked to the source object of the sound and its connection with different discourses depending on different cultures. In addition, I believe our thoughts about matters may have the power to cause physical damage in our bodies in certain contexts. Moreover, it is important to investigate people’s attitudes and understandings about sounds while, as Karlsson among others argues, most of the research concerning sounds are not taken the human into account. He is also emphasizing our changed attitudes to the sound landscape, i.e., our changed perceptions of the ambience. In his view, the ambience has gone from being perceived as natural, informative and something that could be controlled without any problems to be something that has to be “treated” and being perceived as dangerous for the health. According to him, the everyday sound environment is no longer something natural or neutral. It is something that forces people to take a stand.⁵

Notes

¹ Michael A. Forrester “Auditory perception and sound as event” <http://www.kent.ac.uk/sdfva/sound-journal/forrester001.html> 2008-04-16.

² Barry Truax *Acoustic Communication*. Westport: Ablex publishing 2001. p.80-81.

³ R. Murray Schafer. *The Soundscape - the Tuning of the World*. Destiny Books, Rochester, Vermont, 1977. pp. 146, 186-187.

⁴ Henrik Karlsson. *Ljudvärldar Nya forskningsfält för musikkforskare*. (Stockholm: 2000) p. 30.

⁵ *ibid.*, pp. 25-26.

PART 2 ARTISTIC ASPECTS OF SOUND

V. SOUND AND NOISE AS MATERIAL

Introduction

Music is built out of sound most commonly emanating from music instruments, but also computers imitating specific instruments or the human voice. Some artists imitate the sound of nature with the help of instruments or computers in their work. Earlier composers such as Beethoven, Boulez, Tchaikovsky, and Bartok among others are examples of composers that imitated nature or animal sounds with the help of instruments. For example, Beethoven's *Pastorale* has parts with woodwinds mimicking birdsong. Moreover, the avant-garde artist Eric Satie often wrote everyday sounds into the score. In his ballet "Parade" from 1917 he took in dance hall tunes, typewriters, foghorns, rattles, and revolver shots. Another example was his piece "Petite Filles Americaine" where he wrote into the score typewriters and shots from revolvers.

Nevertheless, less common is the application of readymade or concrete sounds found in the environment, or completely new and unheard sounds, the outcome from manipulations in the computer. In practice, music may be understood and defined by its genre, which in turn is connected to negotiations and agreements regarding aesthetics, which decides the more or less strict frames for composition and expression. These restrictions address material as well.

One may interpret the development of the experimental and electroacoustic music as a logical step from the Romantic period via the impressionists, for example Claude Debussy, Maurice Ravel and Eric Satie and their liberation from the strict form and the interests of extending harmonies, through Arnold Schoenberg, associated with the expressionist movement and innovations of atonality, i.e. music that lacks a tonal center. Listen to for example his "Pieces for Orchestra", op. 16 from 1909. From there we may connect Edgar Varèse's uses and love of drums and Russolo's noise instruments and later tapemusic in the form of electronic and concrete music.

The history of changes in rules about composing and performing music preceeding experimental music, together with innovations of reproducing and storing sounds has certainly made it easier for experimental and electroacoustic music to develop even though there was a kind of exclusion from an "ordinary music scene". This exclusion is still here today, considering the everyday audience or ordinary listeners. The exclusions lay in the experimental music and its advocating of freedom from conventional rules. But the tradition still sounds strong in an ordinary listener.

In USA, the composer John Cage can be mentioned as an good example and pioneer in this development. His early experimenting with atonal music (he was an student to Schoenberg) and

his experimenting with music instruments sounding as something else other than intended, later working with indeterministic music and chance, were one way out of many in making experimental music and new forms of art.

Disposition of part 2

Apart from a social perspective of everyday sound in the previous part of the thesis, I will in this part explore creative ways of using everyday sound and noise in art. I will first trace the seemingly confused and scattered lineage in Sound Art up until now, starting off with a short resume followed by a more concentrated review of three forerunners, Luigi Russolo, Pierre Schaefer and John Cage. These pioneers has been very influential in the practise of contemporary Sound Art and has been an inspiration with their attitudes, methods and concepts. In chapter VI I will briefly present some important contemporary Sound Artists and important concepts in Sound Art.

This chapter is finished with a documentation of seven selected art projects I have been involved with during the master program. This process builds in various degrees upon my casestudies presented in the first part of the thesis including voice imitations, text studies, programming and practical explorations regarding means for transforming sounds in the computer and different technical devices such as ultrasound sensors and microcontrollers.

The enclosed CD will follow the text, with sound examples.

Sound Art today

Sound Art is a stragglng concept and is still in the process of defining itself. Beneath the broad concept gathers a great variety of cross media art with altering degrees of technical, audible, and visual elements. Sound sculpting and sound installations are examples of Sound Art and may be difficult to separate. Apart from sound, listening and hearing are a common focus and common are also the use of sound and noises as material with the support of analogue or digital technology, whether high or lowtech.

The use of concrete or found sound from the daily life is often one important ingredient in Sound Art. The theories of Pierre Schaeffer, particularly his theory about soundobject, acousmatic, and reduced listening have inspired the next generation and several books have been published lately that are influenced by the Frenchman and his research. Another influencing line can be traced from the Futurists and Luigi Russolo, whom both Schaeffer and Cage counted as a source of inspiration. Further, the branches John Cage mixed with particularly were DADA, Surrealist, Fluxus, and Situationist movements, and Conceptual Art, and are of utmost importance. Sound Art often defines and locates itself in the site specific and installation form and merges more easily with general art installations. In the works and contexts of the contemporary Sound Artists Christina Kubisch and Bob Fontana for example, we can trace influences from Pierre Schaeffer, the soundscape movement, and John Cage. These two artists (among others) nowadays makes use of high-tech technology and both work site-specifically.

The early pioneers, Luigi Russolo and Pierre Schaeffer have often been neglected in the discourse of Sound Art. Instead, the influence of fine art is emphasized. It is easy to forget that the most important matter concerning the very existence of contemporary Sound Art is the fundament it rests upon, namely the development of techniques for recording and storing media. Consequently, the techniques, theories and concepts that are used by Sound Artists today

draws heavily upon the often-neglected earlier forerunners work and exploration in the matter. Today an increasing amount of art students has recognized the possibilities of digital technology as a tool for giving form to complex contexts and to create new structures and relations. In general, contemporary crossover artists seems to emphasize the conceptual rather than formal aesthetics and it is clear that Sound Art in this context has its main foundation in the avant-garde movements in the early 20th century, Futurism, Dada, Surrealism, Fluxus and Conceptual Art up to its maturation in the 1960s.

Sound Art starting in the early 1900's

One of the earliest pioneers interested in composing with sound and noise from the environment was the Italian Luigi Russolo, one of the painters in the futurist movement 1910-1920. His manifesto of 1913, *The Art of Noise*, was a declaration against conventional music and a statement for noise because, as he argued, noise was the only real music able to evoke emotion and interest. Russolo was inventing and building new types of instruments driven by electric motors and performed with these in Europe. By variations in the speed of the motors, he could alter the pitch.

During and after the Second World War a Frenchman, Pierre Schaeffer did research with recorded sound from the environment. He invented the "style" *Musique Concrète*. In 1949 Pierre Schaeffer met composer Pierre Henry and they founded *Groupe de Recherche de Musique Concrète* with the aim of presenting a new music theory regarding sound and music and constructing a syntax for sound, a new *Solfège* (musicology). Schaeffer started working with turntables and eventually changed to tape machines. One idea of his in the 1940's was that of an existing sound bank holding all the sounds in an orchestra. This idea became later the *phonogene*, a keyboard which predated the *mellotron* and later the *sampler*. Moreover, Schaeffer believed that specific listening orders could reveal an objective and ideal entity: the sound object. Schaeffer's' pioneering work in concrete music, his manipulation of sound fragments and his *Solfège* has laid the foundation to modern sonic creation today. By this time, another branch in Cologne appeared, working exclusively in an electronic and synthetic environment. Both groups were in the beginning in fierce opposition. In 1951, the NWDR studio (Northwest Deutsche Rundfunk) was established. In 1953 Karlheinz Stockhausen began his almost life long collaborations with the Cologne studio. Another influential composer working at the studio was Pierre Boulez.

The serial music was at the top in the 50 and 60's favouring a highly abstract attitude towards musical composition. The Cologne school, contrary to the Paris studio d'Essay, was following this line of abstraction since applying physical and mathematical principles in composition. Both Stockhausen and Boulez criticized Schaeffer for being too "empirical" and "anarchistic" in his methods and Schaeffer himself did not like the highly abstracted serial music.¹ Gradually they came to accept each other's methods and techniques and today we can often hear influences from both schools in the same artist.

In America, the composer and artist John Cage experimented with traditional instruments with the aim to have them sound in ways other than expected. He became famous for his performances with prepared pianos. His ideas and attitudes towards art have had an enormous influence in music and the "fine art" scene. When he brought in the sound of the everyday in his 4'33" piece by silencing the music expected and letting the noise from the surrounding become the situation, he reinforced a development that was more or less in play by fellow artists around the world.

Luigi Russolo

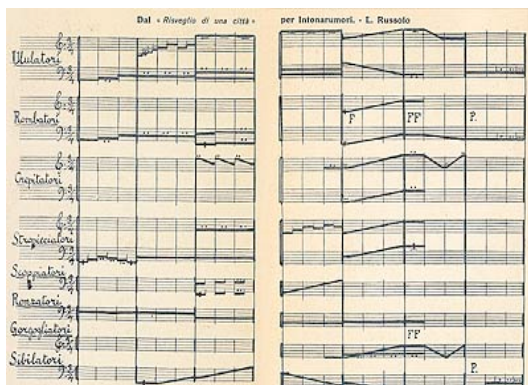
Luigi Russolo (1885-1947) invented a series of acoustic sound generators and wrote music especially for these instruments. Together with Tommaso Marinetti and others, he toured all over Europe. The Intoners were formed as boxes with motors and various mechanisms connected to big metal speakers. The first instrument, the exploder – could reproduce a series of ten whole tones, resembling the sound of a motor starting up. In 1913, he presented his theories about music and sound in a manifest *Art of Noise*. In this document, Luigi Russolo discusses the evolution from silence towards urban noise and the musical sound versus present day noise sound. “In the 19th century the invention Noise was born.”² Russolo discussed the acoustic laws related to Noise, for example the difference between sound and noise:



We want to attune and regulate this tremendous variety of noises harmonically and rhythmically ☐ ☐ to give gradation and tone to the most strongly predominant of these vibrations. Noise in fact can be differentiated from sound only in so far as the vibrations, which produce it, are confused and Irregular, in both time and intensity. Every noise has a tone, and sometimes also a harmony that predominates over the body of its irregular vibrations.³

The practical result of the manifesto was the construction of the noise generators. Russolo began as a painter but got gradually involved in Bruitism – noise music. His introduction of a nontraditional generation techniques and propositions for using any environmental sounds as material in composition, was a result from his opinion that “musical sound (is) too limited in qualitative variety of timbre.”

Russolo explored microtonal and improvisational structures within instruments invented and



built by him in collaboration with Ugo Piatto. These sound structures were largely unheard of at that time. Besides the investigation of sounds he worked with graphic notation techniques and his “Grafia enarmonica per l’intonarumori, Intonarumori” was published 1914 and introduced a new and influential form of musical notation. By that time, a romanticist tradition were ruling in Italy. In that context, Russolo wanted to create futurist music. He dreamed of broadening the mainstream attitude towards music. Furthermore, he wanted to evoke

“sense wonderment” in people and get away from the clean and as he saw it, damaging pure sounds. One of the main ideas of the futurists lies in their ambition to reflect the everyday sound environment of the increasingly technical development heard in society. According to Russolo,

it was the complexity and acoustic richness in certain noises that explain their beauty. Anne Bowler continues:

Central to every face of Futurist aesthetic theory lies the concept of *simultaneity*. Underlying the term, first used by Apollinaire to describe the "orphyic" painting style of Robert Delaney, is the idea that in art, as in any single moment of modern life, a potentially infinite and always changing multitude of events, noises, actions, and sensations may be experienced in concert. It is concept of simultaneity in fact that lies behind Russolo's invention of "bruitism," or noise music, in which the Futurist painter and musician utilized a series of largely hand-made, complex instruments in order to reproduce the new cacophonous beauty of modern machinery and urban life: airplane engines, sirens, explosion and so forth.⁴

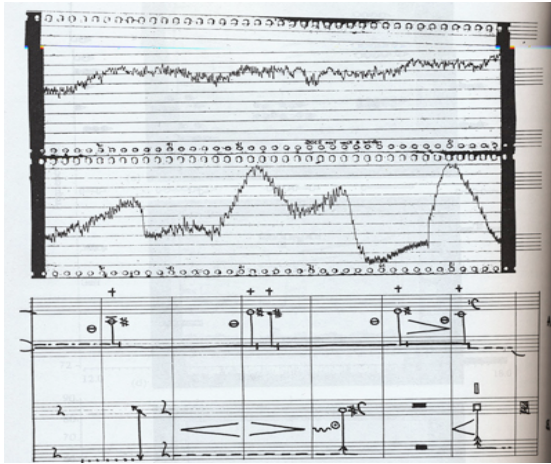
None of the *intonarumori* survived the Second World War, and most of the scores have disappeared. However, seven bars of Russolo's pure noise work - *Awakening of a City* were published in the review *Lacerba*, and this fragment was performed by Daniele Lombardi in 1978 using five *intonarumori* reconstructed for the Venice Biennale in 1977.⁵

Pierre Schaeffer

Pierre Schaeffer (1910-1995) is commonly known as the inventor of the musical style, *musique concrète* and the material in *concrète* music is recorded sounds that later are edited, more or less. Schaeffer's research influenced a new way of considering music. In 1966 his famous and extremely complex *Traité des Objets Musicaux* (Treatise on Musical Objects) appeared, which consists of seven books and a *Solfège de l'Objet Sonore* (Music Theory of the Acoustic Object). In these books he presented a classification system and methods related to everyday sounds and music, a phenomenology of the sonic world. Schaeffer's aim was to transform concrete sounds into compositional material (with musical value) while disconnecting the listener's connection and perception from the origin of the sound.⁶

In the 1930's, Schaeffer educated as a radio engineer with knowledge in broadcast technology, began working at the ORTF (French Broadcasting Authority) in Paris. The famous Club d'Essai was established 1946 and it was here Schaeffer started to explore everyday sounds as material in composing. His first interest however, was directed towards recording techniques and how to use them for isolating everyday sounds. Schaeffer wanted to develop music into something new, something unheard. He made experiments with prepared pianos about the same time as John Cage in the USA. Contrary to Cage however, Schaeffer rejected any live performances.

In 1948 he released *Études de Bruits*, a composition commonly referred as one of the first concrete pieces. These études were composed of sound materials from various recordings; a piano, a railroad, found voices on a record thrown away.



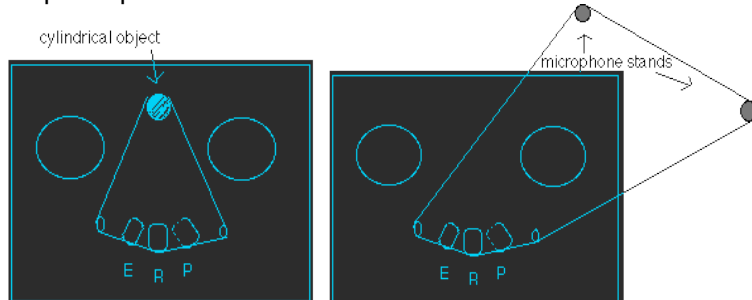
This photo shows one of Schaeffer's explorations with notation concrète a transcription-measuring amplitude versus time. The upper curve is a time trace. The lower portion shows Schaeffer's transcription into staved notation.⁷

The associations connected to the sound sources posed a serious problem to Schaeffer. Failing to alter or remove the characteristics of the sound sources, Schaeffer was forced to choose another path in his exploration of the nature of sound while he wanted his compositions to be perceived as music. His solution was to redefining them as sound events, an *objet sonore* as he called them. Now

he started to explore the inner detail of sounds, their structure and inner processes. The outcome was the "Symphonie pour un homme seul" in collaboration with composer Pierre Henry. The sound fragments selected for building the composition was human and non-human sounds and the central theme was the spoken words or phrase acts, mixed in repeated loops and fragments of percussion and instruments.⁸

In 1951, the RTF provided Schaeffer with a new studio with tape recorders. This led to major technical advances and activities. During the 1950's, several composers visited the studio, for instance Stockhausen, Boulez, Messian, and Milhaud.

Tape Loops:



By using the tape recorders in different ways, Schaeffer was able to control for example pitch with the help of playback speed and create effects like a simple echo by a 2-channel recorder. A feedback delay was created by repeatedly feeding the signal back to the originally tape head recording by using a multi-head recorder. He

also found that reversing the reels and playing the tapes backwards gave usable effects like reverbs and attacks.⁹

The Sound Object

The term sound object or sonic object sometimes labelled musical or music object, was formulated by Schaeffer between the years 1952 and 1966 and was presented as a perceptual object at focus in his research. As an acoustic object, the sound object can obtain new aesthetic meaning as a music object and become sound material in composition. The term sound object is common today, however applied in a slightly different way since it has become stripped of its originally complex meaning and theoretical context.¹⁰

While Schaeffer strove to be objective in his research and emphasize observable phenomena, he had to reduce the associative and subjective meanings connected to sounds and instead

introduce a method of acousmatic listening emphasizing the intrinsic features in sounds rather than the context. This specific listening method was then connected to a standardized set of seven qualities inherent in the sound object. Rolf Inge Godøy explains it as when a sound object has been decided to be used in for example composition, its internal structure could be evaluated in terms of morphological features concerning pitch and/or spectral characteristics.

Further:

Some of the morphological features are illustrated in the Solfege (Schaeffer 1998: CD2, tracks 90–5): The shape, meaning the overall envelope, the mass, meaning pitch and spectral features (e.g. having clear pitch, ambiguous pitch, being inharmonic, various kinds of noise, etc.), the grain, meaning fast/small fluctuations, the harmonic timbre, meaning spectral distribution (e.g. spectral envelope), and the motion, meaning slower/larger fluctuations (the French 'allure' is translated as 'motion' in the English text of the booklet in Schaeffer (1998: 59), but could perhaps also be translated as 'gait').¹¹

Acousmatic experience and reduced listening

The method of reduced listening corresponds to both the acousmatics and the sound object and may be defined as an artificial and intentional way of listening while trying to objectively listen to the sound presented by removing the meanings or associations connected with the sound source, i.e. the cause of the sound. According to Chion, as the acousmatic event implies an isolation of the sound from the audiovisual complex, the situation changes the way we hear sound. Moreover, this condition will create the circumstances necessary for reduced listening, which in turn refers to the notion of phenomenological reduction (*époché*), meaning listening to the sound itself by stripping it of everything that is not the sound itself. The reduced listening is a practice of listening defined as repetitive looped presentations of sound fragments.¹²

Listening - four modes of perception

For Schaeffer the "sound object is the meeting point of an acoustic action and a listening intention."¹³ Outlining four modes of listening, Schaeffer explains the function of traditional music and the relationship between language and music as well as the physical signal and musical object. This is possible by relating two fundamental sets of opposites that, according to Schaeffer, can be found in any perceptual event. The dichotomies are Objective/Subjective and Abstract/Concrete. Schaeffer suggesting four listening moods *Écouter*, *Ouir*, *Entendre*, *Comprendre*. These verbs can be understood in the following sentence:

"I heard (*ouir*) you despite myself, although I did not listen (*écouter*) at the door, but I didn't understand (*comprendre*) what I heard (*entendre* or attending)."¹⁴

John Cage

John Cage (1912-1992) an American composer, visual artist, and writer, predicted in a speaking at Seattle Arts Society in 1937, the use of noise in future compositions. This, he argued, will not end until the production of electrical instruments supplying “any and all sounds that can be heard.”¹⁵ Cages philosophical and political ideas about our being in the world, our way of listening and hearing the everyday sounds as music, had a major impact in the post war years. The very heart of Cage’s music was concentrated around environmental sounds and the interaction of art and life.¹⁶

Cage was one of the first to experiment with found sounds as material in the thirties and the Cornish school had a studio that made it possible for Cage to write a series of compositions that he named Imaginary Landscapes. With these pieces, he explored new combinations of electronics and percussion instruments. The instrumentation introduced in Imaginary Landscape 2 and 3 was contact microphones, combined turntables, and electrical sources with percussion instruments. As Michael Chanan says, by that Cage invented live electronic music.¹⁷

In 1940, Cage performed his first piece for prepared piano, *Bacchanale*. He used different devices such as screws, bolts, and rubber in between strings. By doing so, he muted the piano to sound like a percussion orchestra. Cage said it was Luigi Russolo among others that influenced him to write for percussion.¹⁸ Cage attended the New School for Social research at Manhattan in the 1930’s, first as a student and later an assistant to Henry Cowell. He became a teacher at the same school from 1957 to 1960. By that time several Fluxus artists like Allan Kaprow, Al Hansen, Jim Dine, Dick Higgins, George Brecht, and Toshi Ichiyanagi attended his seminars. Kaprow staged his first Happening 1957 in Cage’s composition class at the school. Cage’s ideas about mixed media aesthetics, randomness, spontaneity, use of found objects, connection of art and life and the use of silence as a material in art became soon means applied in Happenings and by Fluxus artists, both preceding Conceptual Art. It was an overall shift from the emphasize of the art object to a situational event at this time.¹⁹

In 1948, Cage joined the Faculty of Black Mountain and did what is often denoted the first performance. His interest in Hindu aesthetics came from reading the mystics of Sri Ramakrishna and by Art historian Coomaraswamy. Cage was led into medieval Christian mysticism by Meister Eckhart. Another important book for Cage was the *The Perennial Philosophy* (1946) by Aldous Huxley and Carl Jung’s *The integration of the personality* (1940). In an interview from 1984 Cage recalls *The Perennial Philosophy*, saying that all in that book was saying was about the quiet mind, i.e. a quiet mind is a mind that is free from valuations.²⁰

In a radio interview with Cott, Cage said that coming into terms with what the aims of music was he tried to figure out precisely what sobers and quiets the mind. Late in life, in a documentary film by Miroslav Sebestik, 1992, Cage referred to Immanuel Kant when arguing that the meaning of music is only to give us deep pleasure and nothing else.²¹ In relation to sounds, according to Cage in his book *Silence*, “Emotions takes place in the person who has it” (p.10). Further, new music will create a new way of listening and preferably so that music is not associated or related to the memory or imagination, simply a listening and attention towards the processes of sound activity without searching for any message. Consequently, music needs not to be understood, just to be heard.²²

The absence of hierarchy and valuations in Cage’s art along with his devotion to egalitarian aesthetics might be related to his political view and performances with participations of the audience as well as his later creations of composing methods in indeterminacy in the fifties. This

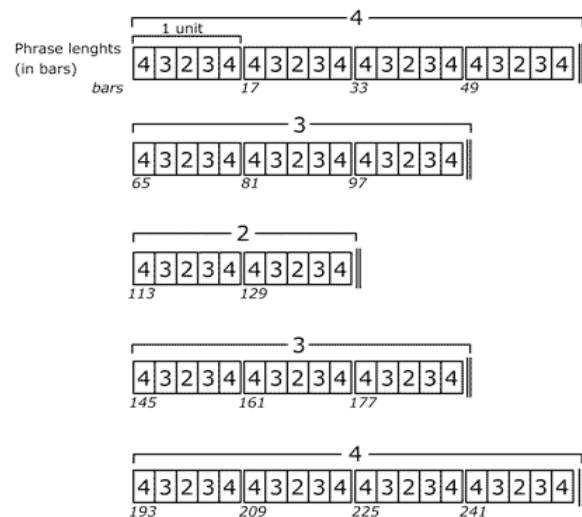
policy clearly represented his view of all sounds being musical and that almost all his large ensemble works needed no conductor.²³

Before Indeterminacy: The micro-macro cosmic principle

In *Forerunners of Modern Music*, first published 1949, Cage claimed that the integration of the materials of music, sound and silence, is the primary concern in composing. This leads to the conclusion that it is only a structure based on length of time contrary to the more common structure based on classical harmony, that is correct when composing. Cage based his argument by defining sound as having four characteristics: pitch, timbre, loudness and duration and pointed at silence as a necessary and opposite coexistence to sound. Since duration (time) is the only one of the four features that contains both sound and silence, duration becomes the only proper structure to create form. Furthermore, durations are rhythmic phrases and timelengths that correspond to material.²⁴

At Cornish School of the arts, Cage discovered the rhythmic structure, the micro-macrocosmic principle as he called it. He applied this principle in composing and comes to apply this in almost all of his concert pieces and in some dance works from 1939 to 1956.

The rhythmic structure is based upon sixteen units that are taken sixteen times sixteen measures of a 4/4 rhythm a five phrases length structure of 4,3,2,3,4. The first four units are material consisting of “rhythmic pattern and instrumentation” the others “development” combined with a 12-measure coda.²⁵ Photo²⁶ Cage’s impact on contemporary music involves time to such extent, as it later became *the* definition of music. It had such an impact on experimental music in general that, according to Robert Ashely, that this must be “...the most radical redefinition of music...” “...one that defines **music** without reference to sound.”²⁷ In the fifties Cage abandoned his strong focus on structure regulated mathematically with the square root principle and his rather limiting instrumentation.



Methods of randomness - to bring about indeterminacy

Cage writes in *Notes on Compositions III*:

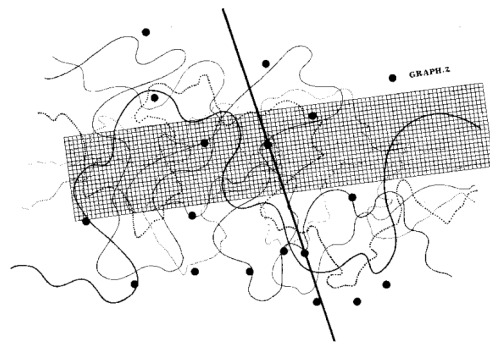
Following my studies with Suzuki Daisetz in the philosophy of Zen Buddhism, I have used in all my work, whether literary, graphic, or musical, I Ching chance operations in order to free my mind (ego) from its likes and dislikes, trusting that this use was comparable to sitting cross legged, and in agreement with my teacher that what Zen wants is that mind not cut itself off from Mind but let Mind flow through it.²⁸

Cage started to use chance techniques in 1951 and related his art to process. Sound and performance was conceived by him as event and process. He kept this composition means through the rest of his compositional life. He often applied I'Ching, The Book of Changes, a classic Chinese text, on chance operations. Other times he used the maps of stars as an example. In using I'Ching, different parameters in his musical compositions were determined while asking questions connected to numbers. In *Music of Change*, the chance operations determined which notes that should sound and when. As Cage says, "no two performances of the *Music of Change* will be identical."²⁹ Another example is *Imaginary Landscape no. 5* written for twelve radios and twenty-four players. The values of dynamics, duration, and tuning (stations) were carefully determined by chance operations and notated for the players to follow during the performance. No 5 was finished in 1952. This was the first work written for making a recording on tape. The instrumentation and material is the use of any recorded sounds from 42 phonograph records and "Each graph unit equals three inches of tape (15 ips)."³⁰

In 1952, Cage staged his famous piece *4'33"* for the first time. This piece allowed any instrument for its performance. David Tudor in New York performed it and the duration of the piece was determined by chance operations. Over time, Cage's compositions turned out to be extremely complex. In a performance called HPSCHD (computerese for harpsichord), computers made the coin tosses and enabled a very large instrumentation and generation over a million random decisions. This piece demanded seven keyboard players, fifty-two tape recorders that were randomly playing computer-generated songs in as many tunings systems. Besides, he managed to keep fifty-two film projectors going and sixty-four slide projectors constantly in four and a half hour. This was 1969.³¹

Graphical notation³²

This is a composition indeterminate of its performance [...] A sheet with points is placed over a drawing with curves (in any position). Over these, the graph is placed and the straight line is used to connect a point within the graph with one outside. Measurements horizontally on the top and bottom lines of the graph with respect to the straight line give a "timebracket" (graph units=any time unit s). Measurements vertically on the graph with respect to the intersections of the curved lines and the straight line specify actions to be made, where the curved lines represent different kinds of actions and the twenty vertical units of the graph represent different degrees of these. Thus, sound sources, their mechanical alteration, changes of amplitude, frequency, overtone structure, the use of loops, special types of splicing, etc may be determined."³³



From the sixties Cage became interested in Marshall McLuhan's ideas and Buckminster Fuller's writings about the effects and relations of technology to change. In the seventies and eighties Cage was influenced by Henry David Thoreau, a French anarchist. Some of his work became a mix of both polemic and political, for example an extremely virtuous piece, *Freeman etudes*, written initially for the violinist Paul Zukofski. As Perloff argues Cage did not perceive composition as something static or an object that was performed before a passive audience, it was more of an "changing acoustical experience..."³⁴

Soundscape

In the late 1960s and early 1970s, the composer Murray Schafer started The World Soundscape Project (WSP). He imagined the soundscape as a “universal composition of which we all are the composers.” He wanted to explore the cultural and historical changes of our acoustic environment, arguing that the compositions of sounds in our environment affect human behaviour. He did this together with Hildegard Westerkamp and Barry Truax among others. It was established as an educational research group and performed recordings and interviews of 25 villages in five different countries in Europe.

According to Truax, the main purposes were to document different acoustic environments and in addition, educate people regarding the importance of the ambience surrounding us all.³⁵ If Pierre Schaeffer contributed with methodological and theoretical issues, Schafer can be said to bring forward pedagogical and ethical standpoints.

The project lasted five to six years and attracted followers from around the world. M. Schafer’s concept “soundscapes” are still widely used although slightly modified. Out of this project developed composers interested to record the ambience and keep the environmental context, its narrative feature. According to Truax, one aim with soundscape compositions is to place the listener in a balanced and ecological environment. A soundscape composition aims to preserve the listeners past experiences and associations and a successful sound composition is one that manages to change a listener’s “awareness and attitude toward the soundscape.” In this sense the goals (besides artistic) are political and social as well.³⁶

There are several soundscape researchers criticizing the relevance of acoustic ecology and the moral aspects attached to it. Referring to G. Wagstaff for instance, the noise or ambience surrounding us is artefacts stemming from changes in technology and social habits, which rely utmost on the type of political system in charge. Therefore, one cannot limit the concept ecology to the criteria music and aesthetics. It has to be oriented towards the political and social society.³⁷

From Sound Art history to my own art process

In this chapter, I have introduced the new concept Sound Art and presenting some important pioneers in the field. Pierre Schaeffer was very much a theoretician but he made also much practical research about techniques regarding recordings and ways of transforming everyday sounds into “musical” material. Luigi Russolo wanted to make new unheard music and he did experimentation with for instance, the speed of the motor in his self-made instruments, and by doing so he managed to alter and vary the pitch. His point of departure was that “musical sounds,” in the meaning sounds from instruments, was too limited regarding the variety of timbre.

Part of my process has been to explore the possibilities of transforming sounds in the computer. For example, I have been exploring and made use of time and speed algorithms in computer transformations of sounds either by stretching or by compressing the sound. Today this can be done without altering pitch. Other effects I have been exploring and using in my work is convolution, which can be done in different ways. One way is to mix two similar sounds and let the computer make a new sound out of it by only keeping certain characteristics the two sounds have in common, and let these merge. Other useable means for changing the sound into something else is to alter the formats. I have explored ways to position sound in space (around the head) so called binaural effects and surround effects. Earlier this was only possible with a

special “dummy head” simulating the proper position of the ears in relation to the sound source. This sound effect is also possible to record with microphones plugged into the ears in order to have the right positions. The playback then resemble the points of sound departure and one perceives the played back sound as emanating from a spot behind your head for example. The best reproduction will be if the listener is wearing headphones.

Today another possibility is to let the computer process a mono file and create a sound as if it is emanating from a spot between you two ears. Moreover, it is possible to let an algorithm “move” the sound around the head faster or slower and taking different directions on its way. The best reproduction is still by wearing headphones but fairly good effects can be achieved with correctly positioned loudspeakers. I have mainly used the freeware PD (Pure Data) and Sound Hack for the effects mentioned above. The software program Melodyne (developed for the voice particularly) and Live, are two commercial software programs that I also have been using.

Moreover, Pierre Schaeffer, John Cage and Murray Schafer have all in different contexts called attention to the importance of listening. Pierre Schaeffer has explained the different ways we are listening. Murray Schafer has developing methods for listening while he found this to be of utmost importance. John Cage said that we need to listen to the surrounding ambience. It is when we are trying to neglect the sounds they will start to disturb us.

In my examination installation with its artificial darkness, I investigate our perception and focus at the same time our listening. It seems that a general increasing production of electronic items, although not necessarily raising the overall sound level, will make us more inclined to ignore listening and make us deafer. In this installation, six tracks of sound emanate from different spots in the space. The first two tracks are the “unaltered” reproduction of voice imitations made in the first case study and the third and fourth tracks are partly based upon the same voices transformed to a low frequency “wall” slowly changing over time. The last two tracks are heavily processed in the computer making use of for instance, binaural and time stretched effects. First, I was planning to use sensors controlling the environment but changed my mind. At one hand, I was tired of my own ambition to be in control of everything. I decided to let loose and make a piece that was unpredictable in a subtle way. The simple solution was to create tracks with different length. Turning on the repeat function and using three different CD-players reproducing the tracks with different time lengths, secured an overall soundscape that sounded different every time one track was repeated.

In this arrangement, the sound installation shares some characteristics similar to a so-called “natural” soundscape. A soundscape is in constant flux all the time and as such, can never sound the same. Working with this “final” installation, I have become interested in questions about relations between human and machine. The mix of non-transformed human voices with artificial sounds may represent this.

The next chapter will continue with a brief discussion of some important contemporary Sound Artists and give references to common concepts often used in Sound Art. I will give some thoughts about the act of imitating, the human voice and listening and hearing before project documentation.

Notes:

¹ Michel Chion. *Guide to sound objects*. 2002. p. 15 and Peter Manning, *Electronic and Computer Music*. 2004.

- p. 41
- ² Luigi Russolo. *The Art of Noise*. 1913.
- ³ *ibid.*
- ⁴ Anne Bowler "Politics as Art: Italian Futurism and Fascism" in *Theory and Society* vol.20 no 6 dec 1991, pp. 785-788 and 779.
- ⁵ <http://www.ltmpub.freemove.co.uk/fdrtxt.html> 2008-04-23
- ⁶ Björn Hellström. Diss. *Noise Design – Architectural Modelling and the Aesthetics of Urban Acoustic Space* 2003. pp.42-43 and Carlos Palombini. *Schaeffer's Sonic Object: Prolegomena* http://gsd.ime.usp.br/sbcm/1999/papers/Carlos_Palombini.pdf 2008-04-22
- ⁷ Courtesy of the Groupe de Recherches Musicales, Paris, Curtis Roads, *The computer Music Tutorial*. 1996 pp. 730- 731.
- ⁸ Brandon LaBelle, *Background Noise*.2006, p. 26 and Peter Manning, *Electronic and Computer Music*. 2004. pp. 20-25.
- ⁹ *Musique Concrète* <http://personal-pages.lvc.edu/~snyder/em/mc.html> 2008-04-22
- ¹⁰ Carlos Palombini: *Schaeffer's Sonic Object: Prolegomena* http://gsd.ime.usp.br/sbcm/1999/papers/Carlos_Palombini.pdf 2008-04-22
- The original complex definition of the term implies a phenomenological and essentialist foundation, sometimes criticized being a-historical, idealistic and outside its context. Brian Kain, "L'Objet Sonore Maintenant: Pierre Schaeffer, sound objects and the Phenomenological reduction." In *Organized Sound* 12(1): 15-24 2007, p 21.
- ¹¹ R.I. Godøy. "Gestural-Sonorous Objects. Embodied extensions of Schaeffer's apparatus." In *Sound 11*(2): 149-157, p 153-154, 2006 and Michel Chion. *Guide to sound objects*. 2002, p. 73-82.
- ¹² Michel Chion. *Guide to sound objects*, 2002. pp.1 and 8-11.
- ¹³ *ibid* p. 9.
- ¹⁴ *ibid* pp. 6-7 and 14 and Björn Hellström. Diss. *Noise Design*. 2003. pp. 72-73.
- ¹⁵ Peter Manning. *Electronic and Computer Music*. 2004. p. 15.
- ¹⁶ Douglas Kahn. *Noise Water and Meat – A History of Sound in the Arts*. 2001. pp. 161- 162.
- ¹⁷ Michael Chanan *Musica Practica*, 1994. p. 263, and "A Composer's Confessions" in *John Cage Writer*. p 33 and Barry Truax. *Acoustic Communication*, 2001, p. 133 and "Notes on Compositions" pp. 6-8 in *John Cage Writer*.
- ¹⁸ John Cage. "Foreword to the well prepared piano." p 118 and "A Composer's Confessions" 1948 p. 32 In *John Cage Writer*.
- ¹⁹ Brandon LaBelle. *Background Noise*. 2006. pp. 54-64.
- ²⁰ Douglas Kahn *Noise Water and Meat– A History of Sound in The Arts*. 2001. p.174.
- ²¹ (www.youtube.com/watch?v=2aYTI Pwp30M) 2008-04-22
- ²² John Cage. *Silence*. 1961, p.10 and in "Listening to Music "1938, p 17 in *John Cage Writer*.
- ²³ "The Anarchist Art of John Cage", 1993. www.richardkostelanetz.com 2008-04-22
- ²⁴ John Cage. *Silence*. 1961 pp. 62-63.
- ²⁵ John Cage. "A Composer's Confessions" in *John Cage Writer* p 35 and James Pritchett. *The Music of John Cage*. 2000, pp. 16-17.
- ²⁶ Photo from James Pritchett. *The Music of John Cage*. 2000. p. 17.
- ²⁷ Michael Nyman quote Robert Ashely in "Towards (a definition of) Experimental Music." in *Audio Culture* 2006, p. 213.
- ²⁸ John Cage. "Notes on Compositions III" in *John Cage Writer* 1993, pp. 107-108.
- ²⁹ John Cage. *Silence*. 1961, p. 36.
- ³⁰ John Cage. "Notes on Compositions II." In *John Cage Writer*. 1993, p 52-53 and Michel Chion. *Guide to Sound Objects*. 2002, p 263.
- ³¹ http://en.wikipedia.org/wiki/John_Cage 2008-04-22
- ³² Graphical notation from Fontana Mix 1958: <http://www.kunst.uni-stuttgart.de/wendland/progetti/mondovi/fontana.gif> 2008-05-18
- ³³ John Cage. "Notes on Compositions" II In *John Cage Writer*. 1993: p 57-58
- ³⁴ Nancy Perloff in The right to be myself, as long as I live! As if I were a sound. "Postmodernism and the Music of John Cage" http://www.ubu.com/papers/perloff_nancy.html). 2008-04-17.
- ³⁵ <http://www.sfu.ca/~truax/soundscape.html> and Michael Bull. "Sound, Proximity, and Distance in Western Experience" in *Hearing Cultures*. 2004. p. 189.
- ³⁶ Barry Truax. *Acoustic Communication*. 2001. p. 237.

³⁷ Gregg Wagstaff. "What is Acoustic Ecology's *Ecology* ? *The New Soundscape Newsletter* number 9, June 1999, p. 27.

VI. PROCESS DOCUMENTATION

Starting off with displacing and dislocating sound and noise

When the Sound Artist Bill Fontana in 1994 created the sound sculpture “Sound Island” in Paris he did not only create an aural dislocation, he displaced the sound while letting the sound affect the new site. In this work, he reproduced the sound of breaking waves recorded from the coast of Normandy over loudspeakers at the Arc de Triomphe. By doing so, he masked or suppressed the sound of intense traffic at the place with the din from breaking waves and by doing this, changed the imagination of the place.¹ Availability to technical media today makes possible any reproduction and storing of every possible noise and sound heard in infinity. While we may transfer and playback the stored media at other places and in other times than the original, we are displacing and dislocating sound and noise constantly. In some sense the tape recorder or other recording media may be perceived as the contemporary Pythagorean Curtain. The telephone is another example. According to R. Murray Schafer:

The three most revolutionary sound mechanisms of the Electric Revolution was the telephone, the phonograph and the radio, sound was no longer tied to its original point in space; with the phonograph it was released from its original point in time.²

Pythagoras held his lessons behind a curtain and invented the word Acousmatic meaning hiding the visual source of a sound. He wanted his apprentices to be protected from irrelevant visual information and focus at the audible message alone. Pierre Schaeffer developed the concept further in his ideas of the sound object and reduced listening. As earlier mentioned, he believed it was possible to strip a sound of its image and associations by performing a special technique he called reduced listening. By this technique, he argued, one could ignore the context attached to the sound. To practise reduced listening, Schaeffer proposed to listen for seven morphological features. By a practise that could be learned as a skill, he argued it was possible to neglect the reference and image visualization from the mind.

Further, the Canadian composer R. Murray Schafer discussed the effect on humans in separating the sound from its natural cause or maker. He named this common phenomenon “schizophonia” referring to the separation of a sound from its original context and moved to another in the meaning of the recorded transformed electro acoustic sound. In Schafer’s opinion, this is a copy and as such having a damaging effect on people.³ Considering the idea of reduced listening, we must understand that it is almost impossible to force the thought in the way Schaeffer was proposing. As Wishart points out, “...in our common experience, we are more often aware of the source of a sound than not and studies of behaviour and aural physiology would suggest that our mental apparatus is predisposed to allocate sounds to their source.”⁴ For Schaeffer and many other composers by the time, the search for new unheard material was in focus and Schaeffer perceived the referential features of everyday sound as an obstacle rather than asset in composing.

Bringing in the human voice

The human voice has been widely used through history as material in art. Apart from the obvious singing in different music forms, the art forms sound-poetry and other avant-garde forms performed by artist like Tristan Tzara, Kurt Schwitters, Brion Gysin, Bruce Nauman, Alvin Lucier and many many others, are examples thereof. For instance, when the clown in Naumans work from 1987 performs a never ending shouting No No NO with a slightly different intonation or at another sound work when a voice reproduced over loudspeakers shouts in a manic way 'work work work' in a looped sequence, the pain and annoyance it releases reminds of the power of the voice, and language becomes apparent.

Furthermore, the human voice is extremely flexible in its ability to imitate different kinds of sounds, although there are certain sounds the voice cannot imitate, for instance steady and inharmonic sounds like bells. While the characteristics of voice also depend on the support of the breath and resonant cavities of the mouth together with chest, sinus, and nasal cavity, the voice could be said to "reflect the whole person." Even with small changes in the voice of a person, we are able to figure out if the person is feeling well or not. As Truax arguing, "sound making is a primary mean for communication by which the person's concept of self and relationships to others, including the environment, are established." ⁵

Imitation

Since antiquity, most western art and sound aesthetics has related to the notion of imitation. As already mentioned, many compositions through history imitate nature, human activities, and technical noises. Mimicry or imitation is constant at play in society, more or less appearing as an automatic and unconscious flow. Leaving out the formal presentations done by comedians or sound-poets, we perform imitations in everyday day activities, in interaction with each other. To be specific, the situation of conversations may exemplify this. As Trevor Wishart points out, imitation can also be understood as an ordinary practice among other animals than humans. For example, birds imitate humans when humans are whistling and one species of birds imitates other species of birds.⁶

Jean-François Augoyard and Henry Torgue separate the imitating process with that of the repeating and the reproducing act while imitation never can be an exact copy of the raw model. Further, they rely on psychological surveys of children when they state that children will become more open to sound creativity depending on their awareness of their own ability of imitating a large amount of sound. Moreover, the act of imitation plays a fundamental role in the process of socialisation while important phonation is learned and perception is accomplished. It has been observed, "the child is imitating an adult's melodic line rather than the differentiated words." ⁷

The complex references that can be made to imitation includes the practical use I have been taking advantage of, in the sense of gathering material and at the same time getting information about peoples' imagination about sound. Everyone can use his or her aural memory to recall a sound, but in order to perform the imitation the act of listening is fundamental. Finally, looking at the act of imitation as a creative act and an act everybody is able to perform, we are all potential artists.

Hearing and listening

The voice and the sounds from humans are the sounds our ears are most sensitive towards and if we do not listen, we would not be able to imitate and in the wider context, understand anything in the world. Radio and recording media changed the way we listen to music and ambience while releasing the source from its sound. In Pierre Schaeffer's opinion, this allowed acousmatic listening but this change was also ontological in that the recording media "disclosed" ontologically distinct and autonomous "sound worlds." However, the mix of recorded and reproduced sounds into the environment of everyday life also made possible ambient listening, for instance bringing in muzak, a kind of music that is produced to fit into the background and favour a passive listening.⁸ The role of muzak is largely the one of a masking device and as such suppresses the by-products emanating from the modern capitalistic society, the noises from electrical fields.

In the ongoing project "Electric walks" by Christina Kubisch, the ubiquitous electric fields such as hum and noises are picked up and amplified by a special constructed headphone. The magnetic coil in the headphone transforms the signal into audible sound and sends it to the amplification system built in the headphone. According to Kubisch, this project came about after starting the project back in the late 70's. In 1999 she got a sponsor and the economical means to take up the project again, now with the help of better equipment. She noticed many strange noises that were not heard back in the 70's. She decided to amplify instead of filtering and suppressing this noise. The electrical field Kubisch talks about are for instance "light systems, transformers, anti-theft security devices, surveillance cameras, cell phones, computers, elevators, streetcars, cables, antennae, navigation systems, automated teller machines, neon advertising, electric devices, etc. create electrical fields that are as if hidden under cloaks of invisibility, but of incredible presence".⁹ Listen to Soundsamples.⁹

Another famous piece from 1977 is Max Neuhaus' Time Square. This is the first steady public sound installation. The piece draws attention to the acoustic environment and aims to make the passerbys conscious about their own listening in relation to the environment. The installation is placed underground in the middle of the 45th and 46th street in New York. A huge loudspeaker is situated in an air chamber. The loudspeaker reproduces an ongoing discrete audible sound. Since it is at a low level of volume, not every one will hear it. Neuhaus has calculated that approx. 50 % of the people passing by will be aware of the piece. Listen to it here.¹⁰

Another interesting listening practice related to social relations is the creation of private sound worlds by using earphones and listening with portable media. Michael Bull calls these people "Urban Flaneurs" and look at it as an ongoing aesthetization of time and space. In this perspective this phenomenon is a product of our consumer culture.

Project I: Future

I was invited to participate in an exhibition that one of the teachers at school, Martin Etherton-Friberg, curated. It was at IT-Ceum in Linköping, Sweden. The exhibition was running from the 9th of December – 16th March 2007.



The subject for the exhibition was Future and I decided to continue working with voices in hacked telephones giving me the possibility to reconnect and develop my last project.

I was interested to pose questions about our Future by relating it to technology and humanity. The new and every day faster development of digital technique in communication makes possible an overall ubiquitous "now." The perception of time and space must therefore redefine and adapt itself in the minds of people. The telephone is one of these devices, which releases the visual source from its sound and places the sound in the ear (mind) with the help of digital (or analogue) technique. How are we affected by an increasing development of extended means for communications? In that context, my piece was created. I wanted to bring in the human voice but not in a typical reciprocal interaction between two people, not a conversation. Instead, the sounding became a monologue, an act

performed in a machine with some resemblances of what we call a telephone today. Moreover, the human voice is here an anonymous sounding in many different languages while the listener becomes a mute stranger. The voices were giving an automated speech with comforting words to who ever wanted to listen. (CD track 01).

The questions about our future are many more than the answers and no one knows for how long time humanity on our planet will exist. The only thing we can say with our understanding today is that a future is not possible without a history and that eventually we are all going to die. In my installation, a hacked telephone has been given partly other functions by connecting to a flash memory and a sensor detecting movements and objects. The machine offers listening features but do not allow any reciprocity or other contact between people. To listen to the pre-recorded material the person has to lift the receiver and hook it up afterwards, just like an ordinary telephone. The recorded voices talk different languages and all express some kind of intimacy. However, whom do they address? Perhaps the voices derive from some ones past, a private memory bank. Maybe are the true function that of a surrogate? An extension designed especially for physically isolated humans to listen at. The apparatus demands attention by ringing when someone is passing in a determined area close to the machine.

Installation description:

When someone is passing in the area of detection, the hacked telephone will start ringing. The sound triggered is the inherent sound that comes with the telephone. If the person lifts the receiver off the hook, a switch that triggers power up power down on the ISD voice circuit connects. The recorded voices start and stop as soon the receiver is back on the hook or when the message is ended. The hacked telephone is a development of an earlier piece of work, "You and I," where the sound was recorded and stored on a minidisc instead as here, in a voice

circuit. In the case of the minidisc, the recorded voice was looped (see page 50).

Voice memory chip ISD 2560 (Information Storage Devices)



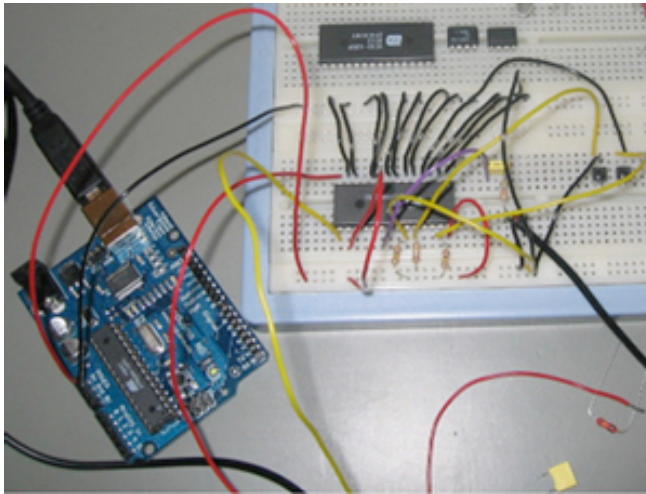
Electronics:

Two independent circuits

1. 2 sensors
2. 2 relays
3. One timer 555
4. 24 VAC for telephone to ring
5. Arduino board
6. ISD 2560 voice storing circuit
7. 1 switch (for power up or down ISD 2560)
8. Speaker (use the one that comes with telephone)

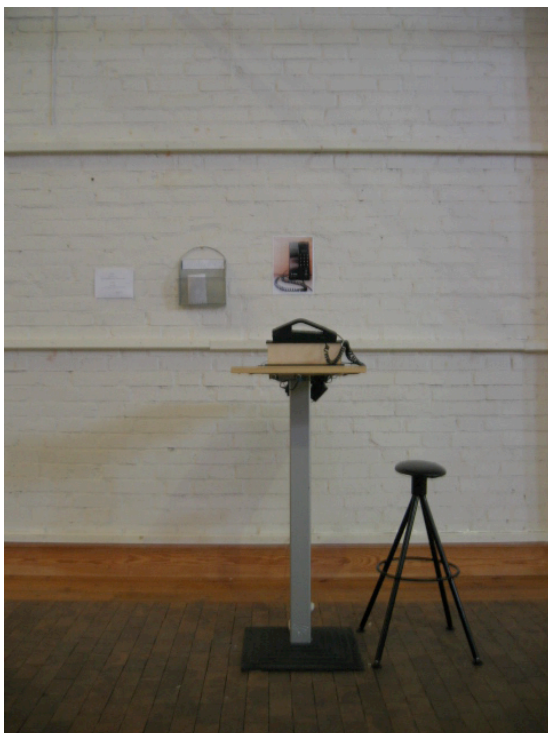


Recording/playback setup



This setup was done in an Arduino workshop at Valand School of Fine Arts. By making use of the ISD chip recording and Playback facilities, 1 minute of pre-recorded voices were sampled later. By connecting the audio out of my computer to the in of one the legs of the chip and controlling on/off with the buttons setup on the board, the sampling to the chip was performed. This chip is powerful enough when recording speech although too weak for sounds that are more complex.

You and I – briefly



message or throw it away.



When a person passes in the detection area the phone rings. A voice telling the listener to read the written message stored in the box at the wall and then writes a new message. The listener is then requested to replace the message stored in the box with the new message. The listener could then choose to keep the

Project 2 – for headphones

This project was an installation carried out in spring 2007 at I41:an. It was made as an at first work in progress in my coming examination. The material in the sound composition was played in the earphones and the composition was based upon mixed voice imitations and recorded answers from my first study. The length of the sound composition is 25 min. The piece played repeatedly from a CD player hidden in the side table.



The mix was based upon three mono files panned either left 100%, right 100% or positioned in the center of the sound image. The first track was a mix of recordings of sound effects determined by the choice of informants in the first study. The second track was a mix of the recording of the informant's associations, memories, and ideas about the actual sound. Finally, the third tracks were a sample from the informant's imitation of the sound. This track was positioned in the left earphone. Consequently, the sound was perceived as emanating at the left side of the head. At the same time the person talked about his or her associations, memories and stories attached to the actual sound. The second track was laid in the center of the sound image and consequently perceived to emanate from a point in the middle of the head. The third track was panned to sound in the right ear.



This track was a mix of sound effects. The sound composition is mixed with tracks sounding at the same time and perceived as sounding from three spots in the head of the listener.

Project 3 – for two loudspeakers

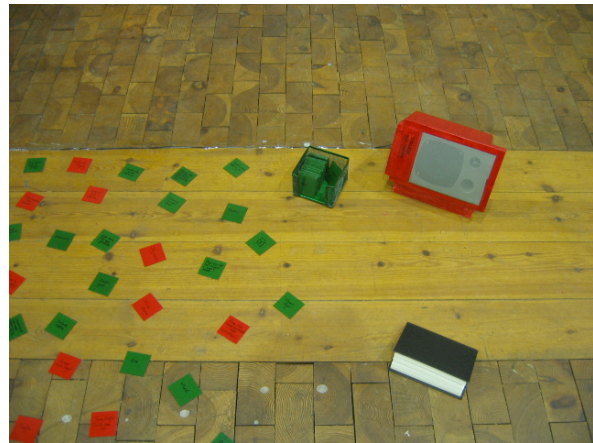
This was the second installation carried out at I41:an spring 2007. It was a sound

documentation of my empirical study (so far) and the sound composition was solely based on imitating voices from the first study. It was mixed in stereo and streamed through two active loudspeakers.



The sound composition is in Mp3 format and plays repeatedly with some pauses in between. A small USB memory stores the sound file and is hidden beneath one of the loudspeakers.

The black notebook holds all the participants associations and valuations made according to certain sounds.



The red and green boxes holding the written down sounds on red or green cut squares depending on the valuations of the sound as positive or negative.

Project 4 - collaboration with TecnoNucleo in Barcelona- Intensities, Inconformismo, incorrección y rebelión entre arte y escena musical.

Read, listen and download at: ¹¹

A work in progress

My collaboration with the Barcelona based net label TecnoNucleo has been restricted to an earlier release of my sound compositions Interferences. In March 2008, they asked me to collaborate in another project lead by curator David G. Torres. The name of the project is "Intensities: Nonconformity, impropriety and rebellion between art and the music scene."

According to Francisco Rubio at LaFundicia, it is a group exhibition organized by the Diputació de Barcelona that will be touring through the year 2008 and 2009. The project is part of a program that will bring contemporary art to small villages around Barcelona city where that kind of exhibitions is not usually exhibited. According to David G. Torres, the exhibition "deals with the crossovers and relationships between art and music." The idea is to draw out a genealogy of this relationship, presenting documentation, audio, and video works by a variety of artists that run from Dadaism through Punk, some episodes involving conceptual artists in the 70s such as Dan Graham or Joseph Beuys, leading up to examples of contemporary artists such as Christian Marclay or Douglas Gordon.



The exposition group wanted to make an experience with TecnoNucleo.org and the outlined process is:

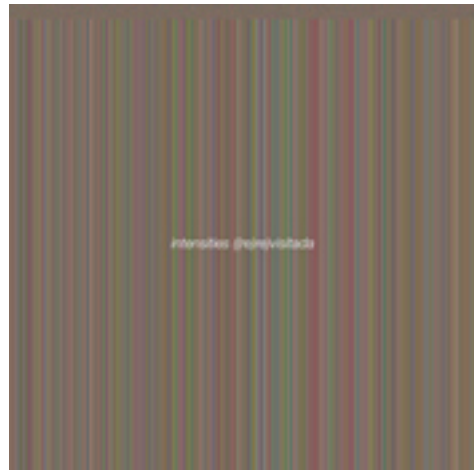


LaFundicio (www.lafundicio.net) will make sound recordings of the ambience (and of the visitors) during the exhibition and later have a dialogue and debate with visitors. The visitors are then instructed to manipulate the recordings with the help of a 4channel mixer, a delay pedal and flanger effect pedal. There will be an available microphone if the visitors want to record and add sounds. Tecnonucleo's artists (which includes me) make later "remixes" of the sound material processed by exhibition's visitors. The remixes are planned to be released June 5th 2008. The aim with this second stage is according to Francisco at LaFundicio "to intertwine the work made by visitors (usually seen as merely cultural 'consumers') with that of Sound Artists (considered as the 'producers') and in some way alter those roles."

Intensities ((re)re)visitada

A Collective CD with 10 artists was released 2008-06-05. The tracks were remixes from the visitors mixing of ambiance and their voices. (CD track 02).

cover design by LaFundicio
photo on cover by Benjamin Fischer



Project 5 - Interferences: three tracks

This project started out at school. We were instructed to surveill ourselves during a period of 24 hours. I made a sound surveillance of my immediate surrounding and myself. The ambience of my living room and consequently the sounds from me was recorded, amplified, and mixed in terms of time, space, and dynamics. I was later invited to make a record with net label TecnoNucleo, Barcelona. I decided to continue with a digital “remake” or remix of the track. The second track “Expansion” is a remake with heavy time stretching, binaural, reverb, and surround effects. A manipulation of the formants has been done. I was using the freeware PD and SoundHack and the software Live and Melodyne. The editing was performed in Audacity, a sound editing freeware. (CD track 03-05).

My aim was to explore the possibilities in digital manipulating in order to transform the original to something else. I kept the form of the composition but let different digital algorithms change the sounds in themselves. When working with digital binaural effects fairly good results can be achieved. First, I thought one needed headphones to hear the effects, but I soon realized that with right positions of the loudspeakers almost the same effect could be achieved without headphones. The surround effects are more in the sense of slower or faster panning between left, right, and the two loudspeakers, while the composition is mixed down to stereo.



Proximity
Expansion
Contraction
Photo Tal Bright
Cover design by Scmute

The EP was released November 2007 under Creative Commons.
Listen and download at: ¹²

Project 6 – Tid

Sex och en halv minut för Zen

Listen and download at: ¹³

The Swedish net label TLHOTRA¹⁴ invited me to make a sound composition for a collective cd. The common theme was Time and a joint project between several net labels. The title was instructed to be in Swedish, otherwise, there were no limitations. I was working with this thesis at the time and was reading about John Cage, trying to sort out the massive information about the man. While I found the subject Time a bit ironic referring to my own situation of being too busy, the title of my sound composition may be related to both Cage and myself while blaming everything upon Cage. Cage was a fan of Zen and from that followed the title. I shall explain the Swedish title: the title could either be understood as six and a half minute too late or six and a half minute for Zen. Furthermore, as time is a human construct I wanted to relate to something that was connected to humans. The material is based upon heartbeats, drum (beats) and ambient noise. The time and space concept are expressed in the digital moving pan effect, a big reverb and the use of a heavy time stretched algorithm. (CD track 06). The first release (4 tracks) with artists connected to TLHOTRA label was released May 3rd 2008. In June 6th 2008, another compilation with all the artists involved at other labels will be released together at the same CD.

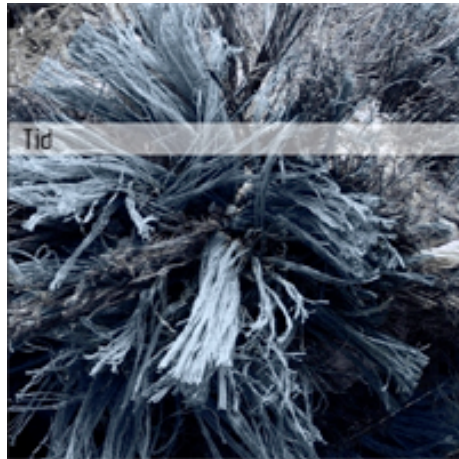


Photo Marcus Åberg

Project 7 – This place will never sound the same

Displacements

This is the final project and the exhibition will run from May 24th – June 8th 2008 at 300m3 Art Space, Göteborg, Sweden.

Curator Marika Orénus
Exhibition assistant: Sophy Naess

Idea and physical setup

This work aims at exploring our perceptions in a dark space. In this room, the sound will slowly change in time in relation to each other. My intention has been to create an installation where the human and machine meets, the human voice and sounds processed and transformed in the

computer.

In contrast to my two earlier sensor controlled installations, I have decided to release the sounds since my idea was to create a dislocation of time regarding the six soundtracks playing in the dark acoustic space. The blackened room may be perceived as an acousmatic curtain (see page 44), as well as the digital media reproducing the message or sound composition.

The circumstances in the space are that of an artificial darkness where the visitors are prevented from using their sight as support. The visitor has to navigate towards a lightspot on the wall illuminating a chair beneath and situated in the middle of the space. The chair is there to assure that the binaural and other “room” effects works properly. i.e. it is important that the visitor sit in a certain position to be able to hear the sounds correctly.

The sound is emanating from various spots in the installation space and the sound composition is mainly based upon the voice imitations recorded from my first case study. The six tracks are either in the form of non-transformed voice imitations, a low frequency noise of slowly changing character and heavily processed tracks with binaural, convolution and timestretched effects. The optimal reproduction of these binaural movements of sounds demands earphones but good effects are possible with loudspeakers.

Technical setup

Sophy builds the space



Three CD-Players, three cd recordings, three amplifiers driving 6 loudspeakers. Three CD's play back six sound tracks simultaneously. These tracks have different length. Consequently, every time the sound composition starts all over again a slight displacement of time will occur. Therefore, the piece will never sound exactly the same twice. (CD track 06)



The space starts to get ready. The speakers have to be covered with black cloth. When the room is finished, it becomes completely dark inside. A small spotlight will be positioned at the wall directed towards the chair situated beneath.

We built a double layer of thick cloth with a gap in between. In the gap we hang the “sock”, the name of a special cloth used in theaters.



Two of the speakers had to be hung from the roof.



CONCLUSIONS

The sound and noise in our environment are not only a physical phenomenon, a mechanical sound wave unfolding in time and space. Sounds are best understood as intricate and one of its rather diffuse features may be the relationship it owns to the individuals and the society it is sounded in. When we hear a sound, our brain acts from being both predisposed and trained to interpret and figure out the physical origin of the sound. Marcia Sa'Cavalcante Schuback refers to Martin Heidegger's phenomenological studies of sound, language, and silence in *Being and Time*, where Heidegger notes that when hearing a sound the individual listen for noise with meanings rather than meaningless sounds. In addition, the evolution of the machine has introduced artificial sounds that both focus difference and relations between sounds from nature and artificial sounds from machines.¹⁵

Much of the noise today sounds different compared to the noise of a century ago since the political and economic context is different. The many by products in the sense of noise from the electrical society do not exist in a rural society and the many sounds that one cannot understand in a big city become meaningless. While these sounds are more likely to be perceived as meaningless information we tend to perceive it as noise or unwanted sound.¹⁶ Furthermore, it is a fact that a sound will evoke memories, associations, and feelings connected to the specific situations the sound was heard in. It is also a fact that people have a tendency to describe sound and noise (music) with emotional terms. Therefore some sound effects are highly subjective and private while others are shared with (almost) all the members in a group or society. The example such as the Horn sound event heard every third Monday in the month in Sweden is such a sound that functions as a signal.

Moreover, in the example of the muttering baby, the study shows a possible existence of a relation between a person's valuation of a sound and the source of the sound. In turn, the valuation of this particular sound can be linked to a main discourse about babies. Following that line of thought, it is not the sound in itself that determines whether people like it or not. Rather, the attitude expressed and coded in descriptions about the sound, is representing the individual's wishes linked to a wider political context. This might in fact be visible in the example above while the actual meaning of a sound (in this case the baby having a possible stomach pain) seems to be neglected or not be coded properly. One might interpret this as faithfulness to a general discourse of babies tied to romantic ideal and/or wishes to conform to appropriate behaviour when evaluating babies.

It is a fact that we lack a common language to describe sounds. This was also verbally expressed by some informants but also in the descriptions that were made. In certain situations, when we lack appropriate words, a voice imitation of the sound may be more convenient. Vocal imitation is closely connected with hearing and listening while they both need each other for proper functioning. The act of imitation is most clearly discovered in the learning situations of children. If we understand imitation as a tool for learning, we can also consider imitation from another angle, namely as a tool in interacting and understanding. This process is then constantly at play between people in conversations and is in constant flow at all places in a society. However, these processes are not easily detected or much thought of because of their everyday and seemingly automated way of performance and action. In addition, imitation is an important and powerful tool in our search to understand what it is to be human. By imitating, we are in a continuing reinforcement and reproduction of what is thought of, seen, and heard. In this fluent process, things are added and subtracted. If we were not able to imitate we would neither have had what we call a society or what historically and culturally is defined as art.

One main aim in this thesis has been to explore our understandings regarding sounds and how we imagine sounds expressed in language, imitation and in art works. Another goal in my art projects have been to introduce "whoever interested" into the realm of art by transforming the imitating voices in my study into an artwork and as such, the imitators become co-artists. The use of recorded voice imitations or voices from others are used in all my projects presented here, except the last three sound compositions. My installations also touch upon questions regarding sounds related to space and time. The question of perception related to time and space is more readily understood in my sound composition "Interferences" with its three tracks: Proximity, Expansion and Contracted, while in the second and third composition this is exemplified using digital manipulations imitating binaural effects in combination with surround effects together with reverb, time stretching and formants manipulation.

In my installation for headphones, I made an early exploration with a steady pan left right and center, dedicated to the three actual voice tracks. This mixing of three tracks playing at the same time with different content forced the listeners to listen carefully if they wanted to understand what was transferred at "three places in the head." Often, when people talk about sound it is in a specific situation within a negative context, as a situation of disturbance, something you cannot escape or even influence. Sound is then defined as related to psychological matter, declared as noise in the meaning unpleasant or unwanted. Consequently, we may pity our inability to close our ears when the neighbors are slamming doors, playing loud music, when the sound of traffic disturbs our night sleep, or the discrete but annoying sounds audible at certain spots at our home force us to move ourselves or our beds into another room. All these noises have the ability to steer our attention away from what we want to focus on. In that situation, we have all felt the power of sounds and our own powerlessness.

In this perspective, it is important to understand the wider connection between sound and power — sound and politics. Different cultural, political and economical systems sound different, i.e. produce other noises as by products due to different ways of producing, manufacturing, and relating to these products, i.e., the patterns for use by the consumer. The allowance among people concerning the content of the surrounding landscape, I will argue, depends upon a mixture of imaginations about the sounds related to the social and outmost political context and of course, to some extent, dependence on the physical threshold, i.e. the level of amplification. The many ways of which we are exposed to sounds that are in one way or another dislocated or heard without figuring out the cause may be related to the speed in which new technological products are produced, manufactured, and settled. At the same time as the production of electronic devices, tools, and other innovations increases, the environment will change and sound different. We may compare a farmer from 100 years ago embedded in a very different soundscape. The sounds in the environment were at that time perceived in different ways. The environment was probably more recognized and well known and the sounds were more listened to, because they carried useful information.

Finally, the phenomenon of the Walkman generation as Michel Bull spoke of, has signaled an audible and physical separation from the surroundings. It could be interpreted as a strategy to protect oneself from an increasing sound intrusion of meaningless information. However, Bull is taking the discussion of portable technological sound media one-step further. He points toward the complex perspective of sound consumption patterns and its relation to “the experience of and desire for proximity and distance in much of contemporary urban life.”¹⁷ Further, he emphasize the way communication devices influence our patterns of interactions and draws upon recent work on media consumption which observes how solitary consumption in our households seems to fuel a feeling of “omnipotence.” Consequently, the use of the media in our households create an artificial need by teaching how to “fill in” all the moments in life when we have nothing special to do. From this he concludes, “the use of sound technologies can be understood as part of the Western project of the appropriation and control of space, place, and the “other.”¹⁸

To be continued

During the time I have been working with this thesis I found myself gradually becoming more interested in this intriguing field of sound. It seems that there is much more to explore. I have come to be interested in the way our “modern” life seems to create paradoxical relationships and effects in humans. The surplus of pictures and sounds seems to makes us “more” blind and deaf for our surroundings. While we in general never perceive sounds as isolated phenomena, instead we interpret sound and noise as related to context and environment, the increasingly new stream of artefacts from the production may become something we need to observe and focus toward. In that perspective, the importance of listening in the sense of “real” listening becomes essential.

Notes

¹ <http://www.resoundings.org/> 2008-04-24

² R. Murray Schafer. *The Soundscape the Tuning of the World*. 1977. p. 89.

³ *ibid.*, pp. 90 and 273.

⁴ Trevor Wishart. *On Sonic Art* 1996. p.129

- ⁵ Barry Truax. *Acoustic Communication*. 2001, pp. 34-35.
- ⁶ *ibid.*, p. 139.
- ⁷ Jean-Francois Augoyard and Henry Torgue. *Sonic Experience A guide to Everyday Sounds*. 2005. pp. 53 and 59-63 and 167.
- ⁸ "Modes of Listening" in *Audio Culture*. 2006, p. 65.
- ⁹ http://www.christinakubisch.de/english/klangundlicht_frs.htm
- ¹⁰ http://www.youtube.com/watch?v=mnMHHr27_yU
- ¹¹ <http://www.archive.org/details/tn007>
<http://www.tecnonucleo.org/index.php?page=news>
<http://www.myspace.com/intensities>
<http://www.diba.cat/oda/intensities.asp>
- ¹² <http://www.archive.org/details/tn005>
- ¹³ <http://www.oljud.nu/tid/en/artists>
<http://www.archive.org/details/tlhotra026>
- ¹⁴ <http://tlhotra.50webs.com/>
- ¹⁵ Marcia Sa' Cavalcante Schuback. "Ljudkonst: Gränsen." *Nutida Musik*, 4:1/2006:07, p. 42-43.
- ¹⁶ Barry Truax. *Acoustic Communication*. 2001, p. 20.
- ¹⁷ Michael Bull. Sound, Proximity, and Distance in Western Experience" in *Hearing Cultures*. 2004. p. 174.
- ¹⁸ *ibid.*, 174-175.

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<http://www.oljud.nu/tid/en/artists> and <http://tlhotra.50webs.com/> or
<http://www.archive.org/details/tlhotra026>
http://www.youtube.com/watch?v=mnMHHr27_yU 2008-04-24

Questionnaire no. I appendix I

Age.....

Nationality.....

1. List 2 or more (environmental) sounds that you like. Try to be as specific as possible:

.....

2. List 2 or more (environmental) sounds that you don't like. Try to be specific:

.....

3. Write down every sound mentioned above and describe your own feelings connected to each of these sounds with *one word or a short sentence*.

.....

4. Do you have any specific memory attached to these sounds? What comes into your mind when recalling these sounds? Are these sounds a symbol for something or how do you associate? (example: "the sound of the sea is a symbol....." or "I associate the sound of the sea with and when me and my").

.....

Questionnaire2 appendix 2

You will be hearing a series of sounds each followed by two questions for you to answer.

The first question is a "fill in question" – just mark with a cross one of three alternatives that suits you best. In the second question I want you, with your own words, describe HOW the sound you just heard sounds and in the third question WHY you like the sound or not like it. Imagine that you tell a friend about the sound. Please remember there is no right or wrong answer *but* I am not interested to know about the soundsource or the cause of the sound when you explain how the sound sounds, so to speak :) After listening to each sound, press the Pause/Play button at the CD-player (Spacebar if using a computer) and write down your answer. To continue, press Pause/Play again (or Spacebar).

Sound 1 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 2 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 3 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 4 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 5 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 6 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 7 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 8 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 9 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 10 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 11 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 12 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 13 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 14 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 15 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 16 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Sound 17 Do you like this sound? Yes ☐ No ☐ I don't know ☐

I want to describe the sound with these words:

I like or do not like this sound because:

Questionnaire3 appendix 3

Questions sent by mail (Facebook or ordinary mail).

Answer A: YES B: NO or C: I DON'T KNOW (or just A B or C)

IN GENERAL this means: dont' consider any context, just answer spontaneously :

1. Do you like the purr of a cat?
2. Do you like the sound of traffic?
3. Do you like the sound of carhorns in a traffic situation?
4. Do you like the sound of car alarm?
5. Do you like the sound of winds in the tree's?
6. Do you like the sound of breaking waves?
7. Do you like the sound of birds (song) ?

